CFE-DM

TIMOR-LESTE

Disaster Management Reference Handbook

December 2025



CENTER FOR EXCELLENCE IN DISASTER MANAGEMENT & HUMANITARIAN ASSISTANCE
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Letter from the Director

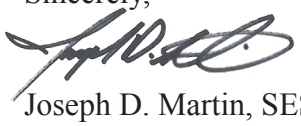
Recent years have seen Timor-Leste building strength and capacity across its domestic disaster management (DM) institutions even as it enhances its regional and international DM partnerships.

The hazard picture for this small island state remains daunting, with extreme weather events frequently occurring and the threat of catastrophic seismic events looming. However, less than a quarter century since independence, the Timorese government and people continue to develop their political and economic systems by mobilizing strong social networks, and this work goes a long way to reducing socio-economic vulnerabilities that could lead to worse outcomes during a disaster event.

A milestone in terms of reducing vulnerability and building capacity is Timor-Leste's October 2025 accession to the Association of Southeast Asian Nations (ASEAN). The country's acceptance into this cornerstone of regional solidarity and development marks a culmination of years of effort by Dili and the Timorese people. In addition to congratulating the country on this success, the Center for Excellence in Disaster Management and Humanitarian Assistance (CFE-DM) hopes to support Timor-Leste's integration into ASEAN's DM structures, processes, and mechanisms in any way we can. The CFE-DM recently conducted a workshop with Timorese stakeholders on civil-military coordination in disaster response, and we look forward to additional planned events that will allow us to support Timor-Leste's consolidation of progress.

This updated Timor-Leste Disaster Management Reference Handbook provides information on the hazards, vulnerabilities, and coping capacities that characterize the country's DM landscape. It is intended to support planning and execution of DM-related activities or disaster response operations conducted alongside Timorese stakeholders.

Sincerely,



Joseph D. Martin, SES
Director

About the Center for Excellence in Disaster Management & Humanitarian Assistance

Overview

The Center for Excellence in Disaster Management & Humanitarian Assistance (CFE-DM) is a United States (U.S.) Department of Defense (DoD) organization comprised of nearly 30 subject matter experts that provide academic research, civil-military coordination training, and operational insights to support decision making before, during, and after crises. The Center is designed to bridge understanding between humanitarians, civilian, and military responders. CFE-DM partners with a diverse group of governmental and nongovernmental actors, as well as academic institutions to increase collaborations and capabilities in humanitarian assistance and disaster response. While maintaining a global mandate, the Indo-Pacific region is our priority of effort and collaboration is the cornerstone of our operational practice. The Center is a direct reporting unit to U.S. Indo-Pacific Command (USINDOPACOM) and is located on Ford Island, Joint Base Pearl Harbor-Hickam, Hawaii.

Vision

Resilient Joint Forces, Allies, and Partners that are fully prepared to respond across the spectrum of humanitarian crises.

Mission

CFE-DM builds crisis response capacity in US, Allies and Partner militaries across the Indo-Pacific to save lives before, during, and after emergencies.

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EXECUTIVE SUMMARY

This handbook is intended as a resource for civilian and military planners who are developing or executing disaster management (DM) engagements with Timor-Leste government or community practitioners. It provides background information on the country, as well as on Timor-Leste's cooperation with international partners.

Decentralized Management

Timor-Leste is a small island state with 1.34 million people, most of whom live in rural areas. Two-thirds of the population rely at least partly on agriculture for their livelihoods. After less than a quarter century of independence, the country's political and economic systems are still evolving. With a largely decentralized administration, local communities have significant leeway to shape development, resource use, and delivery of services, including aspects of DM.

At the national level, the Civil Protection Authority (CPA), within the Ministry of Interior, holds the mandate for DM. It is responsible for coordinating all aspects of civil protection, while municipal authorities focus on preparedness and response. The CPA maintains offices at the national, municipal, and village levels, and its National Operations Center is the central information hub both for receiving citizen calls for help and for managing hazard information for dissemination to stakeholders, including the public.

The country's 14 municipalities – i.e., regions – are steadily becoming more capable and gaining more resources to deliver public services to their jurisdictions. There are official DM committees at the municipal level and at the post and suco (i.e., sub-district and village) levels. These bodies have responsibility for responding to emergencies within their jurisdictions. Municipal DM committees are also responsible for coordinating or supporting lower-level administrations during an emergency response.

Exposure and Vulnerability

The country is exposed to droughts, earthquakes, tsunamis, landslides, floods, and storms. The hazard events that have had the greatest impact on Timorese communities were droughts and floods, and the institutions of the Government of Timor-Leste (GoTL) are steadily grappling with increasingly challenging hazards. As the frequency and severity of droughts and storms have increased and are projected to continue to worsen, the potential for more frequent devastation rises.

Alongside significant exposure to hazards, Timor-Leste's people show high rates of vulnerability to having their lives and livelihoods disrupted by hazard events. High poverty rates and a large informal economic sector mean that many households do not have the ability to build household or individual coping capacity – financial, material, or social. More than 40% of the country's people are believed to live below the poverty line, and just over one-third of the labor force is in formal employment.

Solutions

In recognition of the need to take action to mitigate hazard risk by addressing vulnerabilities and strengthening national, regional, and community coping capacity, Timor-Leste's government and civil society are active in building relationships domestically, regionally, and internationally. Timor-Leste is an active member of the United Nations (UN), and several major UN agencies are resident in the country, where they implement DM programs. On 26 October 2025, Timor-Leste acceded to the Association of Southeast Asian Nations (ASEAN), and access to ASEAN's well-developed DM institutions and practices is expected to impel Timorese DM forward. Finally, the Timor-Leste Red Cross, religious organizations, community-based organizations, and bilateral and international donors all work closely with the CPA to boost local resilience.

COUNTRY OVERVIEW

The small island country of Timor-Leste is a rugged land, exposed to both geological and hydrometeorological hazards. Of the country's 1.34 million people, about 70% live in rural communities, and two-thirds of families rely at least partly on agriculture. However, the population is largely under 30 years of age and is steadily urbanizing. With the poverty rate topping 40%, the country continues to grapple with challenges in developing its political and economic systems. As a decentralized government, municipalities and posts are the key administrative levels tasked with delivering public services, including DM, to the populace, but these administrations are often under-resourced.

Geography and Environment

Timor-Leste occupies the eastern half of the island of Timor, which it shares with Indonesia's East Nusa Tenggara Province. The country also includes two offshore islands – Atauro and Jaco – and the Oecussi-Ambeno exclave on the northern coast of the Indonesian half of the island.[1] In total, the country has just 15,000 square kilometers (km^2; 5,790 square miles [mi^2]) of territory. Figure 1 shows a map of the country.[2]

With 706 km (438 mi) of coastline,[3] the country is bounded by the Timor Sea to the south and southeast, the Wetar Strait to the north, and the Ombai Strait to the northwest.[4] It shares a 253-km (157-mi) land border with Indonesia.[5] Indonesian islands lie across the straits to the north, and Australia lies approximately 400 km (250 mi) southeast of Timor-Leste across the Timor Sea.[6]

The island's formation is linked to continental uplift along a major fault and to volcanic activity. This geological origin results in a very rugged topography. More than half of the territory sits at a slope of more than 40°, and it is generally steep and stony.[7] The highest point in Timor-Leste is Mount Tatamailau (or Ramelau; 2,963 meters [m]; 9,721 feet [ft]), located in the center-west of the island and surrounded by a high plateau.[8] There is also a small mountain range, the Paitchau, in the eastern part of the island, while the remainder of the territory is hilly with some lowlands.[9] The northern coastal plains are very narrow – non-existent in some places – while the southern coastal plains can reach a width of 20-30 km (12-19 mi),[10] although they can be swampy as they are cut through by river deltas.[11]

The West Pacific Monsoon, El Niño, and elevation are the major influences on the country's climate and weather.[12] The cyclone season stretches from November through mid-May, and there is a more active period of storms between January and mid-April. Cyclones often do not make landfall in the country but affect it during their early development, when they bring high winds, heavy rains, and occasional storm surge.[13]

There are two seasons, a rainy season (December-April) and a dry season (May-November). This seasonality has significant influence over the country's rivers. In the dry season, many rivers disappear entirely, while in the rainy season, they can become dangerous torrents. Flash floods are common along watercourses.[14] The dry season frequently leads



Figure 1: Map of Timor-Leste

to water shortages and makes farming difficult, and the wet season often brings heavy rains that cause erosion and wash soil into water sources that become contaminated. Moreover, run-off reaching coastal waters damages coral reefs and fisheries.[15]

There are some variations in temperature and precipitation. At the coast, the temperatures are generally higher than in the mountains, but there is little seasonal variation. The average July minimum temperature is 24.1°C (75.4°F), and the average November maximum is 25.4°C (77.7°F). June, July, and August are the coolest months. Average monthly precipitation totals 12-18 millimeters (0.5-0.7 inches) in the driest months (August and September) and 222-252 millimeters (8.7-9.9 inches) in the wettest month (December). El Niño phases can cause inter-annual differences in rainfall of up to 50%. The northern coastal areas are dryer than the southern regions.[16]

Society and Demographics

The people of Timor-Leste are overwhelmingly rural and live in small communities where agriculture is the backbone of society. Photo 1 shows a market in Obulo, Ermera municipality; it is a very small, rural village.[17]

Rural communities are generally underserved by infrastructure – communication, electricity, transport, etc. While the village is also the heart of emergency response and resilience-building, a lack of resources at the lower levels of administration means that most communities do not have the information, expertise, budgets, or training to implement robust disaster risk reduction (DRR) projects. Many rely on the Catholic Church or non-governmental organizations (NGO) for development, DRR, and assistance.



Photo 1: Market in Obulo, Ermera Municipality

According to the 2022 census, Timor-Leste had a population of 1.34 million people.[18] The country experienced very high population growth until about 2000, after which the growth rate began to slow.[19] Nevertheless, the population grew at a rate of 1.8% annually between the census exercises of 2015 and 2022.[20]

Children under the age of 5 years make up nearly 12% of the population, and nearly 65% of the population is younger than 30 years of age.[21] Elders (over 65 years of age) make up 6.8% of the population. Projections see a much larger cohort of youth emerging by 2050, and this bump indicates a longer-term rise in the number of working-age Timorese. The challenges associated with rising life expectancies and higher percentages of elders in the population are still somewhat far in the future for Timor-Leste.[22]

The people of Timor-Leste derive from Melanesian and Malayo-Polynesian ancestors. At least 16 indigenous languages are spoken as first languages by communities across the country. Tetum is the first language of an estimated one-quarter of the population,[23] and it is the common language used across the country.[24] Tetum is also one of the official languages, alongside Portuguese. English and Bahasa Indonesian are also common working languages.[25] In addition to language, the legacy of Portuguese colonialism is evident in religion; nearly 98% of the population is estimated to belong to the Roman Catholic Church.[26]

The 2022 census found that the population of Dili, the largest municipality (district) in the country, was 235,000 people. Ermera (138,000 people) and Baucau (135,000 people) are the other semi-urban areas, and together, the populations of Dili, Ermera, and Baucau

constitute 44% of the total population.[27]

The overall population density is approximately 90 people per km² (233 per mi²). An estimated 70% of the population lives in rural areas, in small towns and villages. Table 1 shows the approximate population densities of the 14 municipalities, based on the 2022 census.[28]

Vulnerable Groups

Floods, storms, and droughts impact lives and livelihoods. Damage to homes and crops is the most common direct effect of severe weather, and any level of loss on these fronts can leave some people unable to bounce back. The level of impacts and coping strategies of populations depend heavily on socio-economic status, cultural norms, and access to resources, among other factors. Specific risk reduction measures – especially including vulnerable people in planning for disasters – can help reduce vulnerability and build societal resilience.

People Living with Disabilities

There are varying estimates of how many Timorese live with a disability. According to the 2022 Population and Housing Census, about 1.6% of the people (ages 5 years and older) – just over 17,000 people – live with a disability.[29]

Disability is strongly associated with age; between the 70-74 years-of-age cohort and the 85-89 years-of-age cohort, the disability prevalence rises from 8.6% to 22.3%. Disability is more prevalent in rural areas, where 1.7% of the population reports living with a disability versus 0.8% in urban areas.[30]

District	Population (per km² / mi²)
Aileu	78 / 202
Ainaro	91 / 236
Atauro	83 / 215
Baucau	90 / 233
Bobonaro	78 / 202
Cova-Lima	61 / 158
Dili	1,427 / 3,696
Ermera	181 / 469
Lautém	38 / 98
Liquiçá	149 / 386
Manatuto	28 / 73
Manufahi	45 / 117
Oecussi-Ambeno	99 / 256
Viqueque	42 / 109

Table 1: Population Density, by Municipality

People living with disabilities rely heavily on organizations of people with disabilities (OPD) and NGOs for services – e.g., education or health care – that they are unable to access through standard public routes. Many of these OPDs and NGOs, as well as the Church, play a role in ensuring that Timorese people living with disabilities receive relief and assistance during emergencies.[31] As recently as major flooding in 2021, responders worked with OPDs to ensure attention was paid to the distinct needs of this vulnerable population.[32]

Since 2006, local NGO Ra'es Hadomi Timor Oan (RHTO) has served as the focal OPD. It has members across all districts and advocates for the inclusion of people living with disabilities across all sectors of life.[33] Through the Australian Humanitarian Partnership (AHP), Australian NGOs work closely with RHTO on annual work plans for disability-inclusive DRR. RHTO is increasingly active in decision-making forums that are critical for disability-inclusive disaster preparedness and response.[34]

Poverty and Rural Communities

Over 40% of the population is thought to live below the national poverty line. One-third of the country's 65 administrative posts have an estimated poverty rate of greater than 50%, and rural posts tend to be poorer.[35] People living in poverty or near the poverty line are vulnerable to more adverse impacts because they have fewer resources to mobilize to cope with an emergency.

Rural communities are especially vulnerable to food insecurity due to minimally productive farming and isolation from markets to supplement household food resources during the "lean season" (October to March).[36] The stark relief of the landscape means that landslides and floods are common occurrences, and they frequently cut off transportation arteries critical for rural communities to reach population centers either for work, education, health care,

or simply resupplying.

Many small, rural communities also deal with minimal access to electric power, clean water, or sanitation, even in normal times. They do not have access to information or financial or material assets to prepare for extreme hazard events. Near-annual hazard events result in damaged homes and crops, livestock losses, soil erosion, and forced evacuations, all of which further erode their ability to build resilience to cope.[37]

Women

Women in Timor-Leste continue to confront high rates of physical violence, most often at the hands of a spouse or partner. One-third of adult Timorese women report having experienced physical violence in their lives. Surveys also find that a majority of adults find some violence against women justified. In fact, more women than men agree that a husband is justified in beating his wife if she neglects their children or goes out without telling him.[38] These attitudes can severely constrain the ability of women to seek assistance after a disaster.

Additional factors account for the differences between women's and men's vulnerability to hazard events; they include differences in time use, access to assets and credit, and formal institutional policies and practices, all of which can constrain opportunities to participate in decision making before, during, and after an emergency.[39]

In the 2022 census, more than 130,000 women of working age (about 31% of all working-age women) pointed to time and effort spent caring for home and family as reasons for not participating in the labor force.[40] During an emergency, women will be expected to ensure that elders and children are tended to and the home is maintained, cleaned, fixed, and supplied. Fulfilling these duties requires planning that explicitly demands the ability to access and act on information related to hazards and disaster relief.

Censuses and household surveys consistently find that more than 90% of Timorese women participate in all types of important decision-making (health care, household purchases, and visits to family or relatives), and 92% of Timorese women report having the power to make decisions regarding how their earnings from employment are spent. Women do report lower rates of individual property / home ownership than do their male peers, lower rates of bank access, and lower rates of mobile telephone usage.[41]

Government

The Constitution of the Democratic Republic of Timor-Leste came into force in 2002. It prescribes decentralized administration, with special status for the Oecussi-Ambeno exclave and Atauro island.[42]

A semi-presidential republic, Timor-Leste has a President who oversees state institutions and may veto bills passed by the National Parliament.[43]

After a general election, the President appoints a Prime Minister from the majority party in the Parliament to form a government, which is responsible for developing and implementing policy.[44] Government Ministers are not required to be drawn from members of parliament.[45] The National Parliament is unicameral and has between 52 and 65 seats. The terms of presidents and parliament members are five years.[46]

Under the national government, there are 14 municipalities, which are akin to districts. Below the municipal administrations are 67 "administrative posts," or sub-districts. One post serves as the capital of a municipal region. Posts are further divided for local administration into sucos (villages), of which there are 298 in the country. A suco can comprise one or more aideias (hamlets), but these do not have separate administrations.[47] There are official DM committees at the suco, post, and municipal levels, and these bodies have responsibility for responding to emergencies within their jurisdictions or, in the case of municipal authorities, coordinating or supporting a lower-level administration during an emergency response.

Despite the constitutional establishment of

administrations that are close to the people, local authorities have remained relatively weak and under-resourced. From 2025, a strategy of administrative decentralization and installation of local government representation is in process, with the first stage being to establish a one-office space in every constituency to deliver services to residents. Municipal authorities will subsequently be the target of resourcing and support to develop more competence for holding municipal elections, training mayors, and conducting assessments and evaluations.[48] As this process continues, it is hoped that local authorities gain the capacity to conduct more risk reduction and risk management.

The Constitution has provisions for the president, in consultation with the government, to declare a state of emergency after a disaster. In such a case, the national government may put specific limits on rights and freedoms and make demands of the people for a 30-day period (renewable).[49]

Economic Profile

The country's economic stability and development are closely tied to energy export revenue, private investment and consumption, and the incidence (or lack) of major hazard events. Geopolitical tensions and global market swings can negatively or positively affect Timor-Leste's domestic budget. Increased local demand for imported goods can coincide with a strong U.S. dollar (Timor-Leste's official currency) to erode export earnings. Extreme weather can deliver destruction to infrastructure and crops, in addition to shaking the confidence of investors and the public.

Recent years have seen moderate growth in the country's gross domestic product (GDP) – i.e., rates of 2.4% in 2023 and 3.3% in 2024,[50] well above the 10-year average of 1% annual GDP growth.[51] The Asian Development Bank projected 4.0% GDP growth for 2025 and 3.8% growth in 2026. However, these projections do not account for major ongoing global trade and commodity price shifts. With remittances from the Timorese diaspora and tourism receipts providing significant amounts of capital directly to workers, Timor-Leste's economy is highly exposed to market disruptions in countries that either host the diaspora or whose residents drive Timor-Leste's tourism sector. Moreover, unpredictable shifts in the global oil and gas markets mean that the country's Petroleum [sovereign wealth] Fund may not perform as robustly as needed over the coming decades.[52]

An estimated two-thirds of families rely on some form of farming activity for their livelihoods.[53] Meanwhile, the agriculture, forestry, and fishing sector is the largest non-oil, non-government contributor to GDP - 20% of the total – although that total reflects significant estimation by the government statistics office because of the prevalence of subsistence or household farming.[54] Coffee accounts for Timor-Leste's largest non-oil export commodity, but the World Bank notes that the value and volume of coffee shipped by the country have fallen off in recent years due to challenges with coffee plantation productivity and the quality of beans. Meanwhile, imports of food, electronic appliances, and machinery equipment continue to rise.

While agriculture accounted for approximately 27% of all formal and informal jobs in 2024, the share of the labor force employed in the sector has been falling for over a decade. Meanwhile, since 2013, the share of jobs in the services sector has risen from 45% to 59%. The public sector (i.e., government) accounts for 77% of all jobs, and 88% of jobs in the formal sector. Retail and construction are the leading sources of revenue – excluding petroleum – across the economy. Oil accounts for approximately one-third of all revenue.[55]

Of the 874,000 people considered to be "working age," the 2022 census found that only 36% participate in the labor force. The 560,000 working-age adults who do not participate cited a variety of reasons for not working, but equal proportions of them cited being in education or taking care of the home and family (about 33% each). Another 12% were entirely engaged in subsistence farming, fishing, or herding, and approximately 7% were retired, elderly, or living with disabilities or ill health.[56]

DISASTER PROFILE

Timor-Leste's location and exposure to climatic and geological events put the population at risk of impacts from a range of natural hazards. The country's socioeconomic vulnerability increases Timor-Leste's risk of serious impacts. The effects of disasters are widely felt. Around 80% of the population have already experienced the effects of a disaster in their lifetime.[57]

Floods are one of the most frequent hazard events, and they have usually resulted in the severest humanitarian impacts,[58] such as lost lives, injuries, economic losses, and damage to infrastructure and agriculture, often resulting in food shortages. Additionally, disasters have resulted in significant displacement. Between 2008 and 2022, disaster-driven displacements numbered at least 20,600.[59] Access to affected populations can be a major concern for responders, as many areas are prone to floods and landslides during the rainy season, and these phenomena can hinder humanitarian access and delay emergency relief.[60]

Hazards

Timor-Leste is prone to natural hazards, including floods, landslides, drought, tropical cyclones (TC), and storms. The most common hazards are floods and landslides, followed by drought and storms.[61] Situated in the Pacific Ring of Fire, earthquakes are common and drive the risk of tsunami. Although earthquakes in the area are frequent, they have rarely caused major damage.[62] The climate is tropical, and it is influenced by the West Pacific Monsoon, the Australian Monsoon, and El Niño Southern Oscillation (ENSO).[63] ENSO strongly affects the country's climate and can cause up to 50% variation in the timing and extent of rainfall.[64]

Drought

Droughts and heat have had a significant impact on agriculture, food and water security, and livelihoods for much of the population. Drought has also caused loss of livestock and driven nutrition and water, sanitation, and hygiene (WASH) needs. El Niño conditions have led to prolonged drought and more frequent extreme rainfall events during the dry season, and this combination can lead to flash floods and soil erosion. Additionally, heat- and drought-driven forest and urban fires have the potential to increase due to rapid and unplanned urbanization and conditions created by prolonged dry seasons.[65]

Several municipalities are often heavily impacted by drought; they are Oecussi, Dili, Manatuto, Cova-Lima, and Bobonaro.[66] In 2024, an El Niño event that began in June 2023 brought abnormally high temperatures and uneven and low rainfall across the country; it impacted 10 municipalities and affected food security, with almost 27% of the country's population feeling some effects.[67]

Earthquakes

Timor-Leste is located near one of the most active tectonic plate boundaries in the world. Thus, it has high exposure to earthquakes. However, earthquake impacts have historically been minimal.

Although earthquakes in the area are frequent, they generally occur offshore and have not directly hit the country.[68] A total of 2,554 earthquakes with a magnitude (M) of 4.0 or above have struck within 300 km (186 mi) of the country in the past 10 years. This total results in a yearly average of around 255 earthquakes per year, or around 21 per month.[69] The most recent major quake to occur near the country was a M7.3 temblor on 29 December 2021; the epicenter was in the Banda Sea, and it did not result in any reported casualties or damage.[70] The quake was preceded by an offshore M5.7 quake, which shook the country on 16 December 2021. The epicenter of that earthquake was 245 km (152 mi) from the country's northeastern municipality of Lospalos.[71]

The occurrence of other moderate quakes

in recent years include a M6.3 earthquake that struck 196 km (122 mi) north-northwest of Dili on 6 April 2019. No casualties or damages were reported.[72] More recently, on 28 October 2025, a M6.4 undersea earthquake struck 450 km (280 mi) northwest of Dili at a depth of 142 km (88 mi).[73] One day earlier, a M6.2 undersea quake struck 59 km (36 mi) northwest of Pante Makasar, Oecussi, at a depth of 75 km (46 mi). The epicenter was approximately 180 km (112 mi) west-southwest of Dili. According to the United States Geological Survey (USGS), one of the nearest population centers within 100 km (62 mi) to the epicenter of the earthquake was Pante Makasar, with a population of 4,730. There were no reports of casualties or damages after either quake.[74]

Epidemic Disease

Mosquito-transmitted diseases, in particular dengue, are major public health concerns in the country. In the latest dengue outbreak in 2025, there were at least 909 recorded cases and 7 dengue-related deaths nationwide by July. There have been several major outbreaks reported in the last decade, including in 2022, when the country saw over 5,600 cases and 58 dengue-related deaths.

The Dili area is one of the areas most impacted by dengue, and control methods such as fogging, education, and awareness programs are utilized to help curb the spread. Supported by the Australian government, a joint program with the World Mosquito Program (WMP), Timor-Leste Ministry of Health, Action on Poverty (AOP), and the Menzies School of Health Research started in August 2025 to address the threat of dengue and other mosquito-borne diseases. The program utilizes WMP's Wolbachia method, which consists of introducing the Wolbachia bacterium into mosquitoes to stop them from transmitting dengue, Chikungunya, Zika, and yellow fever. In August 2025, the program saw the release of Wolbachia mosquitoes across 20 km^2 (7.7 mi^2) of urban Dili, where it covered more than 240,000 people.[75]

Timor-Leste has also recently seen the appearance of the Chikungunya virus (CHIKV). The first locally diagnosed case occurred in November 2023. In January 2024, an outbreak of CHIKV began, with 195 cases reported that month. However, there were no deaths or hospitalizations. Cases were reported across the country, but most were in Dili, although the highest incidence was seen in neighboring Ermera. Aside from CHIKV and dengue, the Zika virus poses a threat, with some cases reported during a triple outbreak of Zika, dengue, and CHIKV in early 2024.[76]

Timor-Leste has also seen the introduction of rabies, with the first human case reported in Oecussi in March 2024. The victim was bitten by a dog and later died in the hospital. Rabies has long been endemic in neighboring Indonesia.[77] As of mid-June 2024, the World Health Organization (WHO) had reported at least four deaths due to rabies in Bobonaro, Ermera, and Oecussi. Since March 2024, a total of 106 animal rabies cases, mostly in dogs, have been reported.[78]

Floods and Landslides

Timor-Leste is exposed to frequent floods and landslides during the wet season (November to April).[79] Heavy rain events that trigger flash flooding, riverine flooding, and landslides are some of the main hazards affecting the country. A La Niña event typically leads to increased precipitation and, therefore, to flooding and landslides. During the transition from El Niño to La Niña, the country has historically experienced concurrent dry conditions, extreme rainfall events, and above-average temperatures.[80]

From 2013 through 2023, floods were a major hazard, leaving a total of 28 dead and 9 others missing, and affecting 29,696 households, with 6,797 houses destroyed. The six most affected municipalities were Dili, Cova-Lima, Manatuto, Viqueque, Manufahi, and Oecussi.[81]

The country's central mountains rise to 3,000 m (9,842 ft) with deep valleys, and almost half of the country has slopes greater than 40°, a degree that contributes to soil erosion during heavy rainfall and the risk of landslides.[82]

Tropical Cyclones and Storms

Although it is mostly located outside the primary cyclone zone, Timor-Leste is still impacted by TCs originating further south. The cyclone season runs from October to May.[83] Historically, the frequency of TCs in the country's Exclusive Economic Zone (EEZ) is 1.46 cyclones per year. Of these storms, 0.57 cyclones per year make landfall. More than half of the cyclonic storms that pass through the EEZ are tropical storms (64.5%), 18% are Category 1 cyclones, and only 1.2% reach Category 5 level. At landfall, tropical storms account for 72%, while the proportion of high-intensity cyclones decreases to 0.6%.[84]

Many rural communities are situated along the coastline, and they rely on farming and fishing for their livelihoods. Almost 65% of the population lives in low-lying areas exposed to storm-related hazards such as flooding.[85] A survey conducted after TC Seroja in 2021 revealed that nearly 75% of households reported being vulnerable to floods, followed by 32% vulnerable to TCs, and 29% to landslides.[86]

Tsunami

Due to the earthquake risk for the country and its location on the Pacific Ring of Fire, the threat of a tsunami is always present. One survey finds that the tsunami hazard risk for Timor-Leste is classified as "medium," meaning that there is more than a 10% chance of a potentially damaging tsunami occurring in the next 50 years.[87] Since 1857, three tsunami events have occurred.[88] The deadliest tsunami to hit the country occurred on 14 May 1995; a M6.9 earthquake in the Flores Sea triggered a 1.5-4-m (5-13-ft) tsunami, which caused fatalities and damage in the Dili and Maliana regions. The tsunami left 11 people dead and 19 others injured. It also destroyed several homes, damaged 40 fishing boats, and left hundreds of head of cattle missing.[89]

Disasters by Numbers

The following assessment of data is intended to support planning for potential disaster responses by characterizing the most common types of hazard events.

Timor-Leste's CPA has utilized the DesInventar system for recording disaster loss and damage data. The system has been maintained since the country became independent in 2002. That database provides an overview of the temporal and geographical distribution of disaster events and their impacts. However, the system is limited to reporting only statistics on fatalities and affected populations; data on losses and damage in economic terms are not reported. Thus, a weakness of the system is that there are no available historical disaster statistics that indicate direct disaster economic loss or damage to infrastructure and disruption of services. A new system called the Timor-Leste Emergency Response System (TERS) is a post-disaster data collection and analysis tool that is being developed with support from the United Nations Development Programme (UNDP),[90] and it may prove useful for statistical analyses in the future.

The assessments in this section are based on a dataset from the Centre for Research on Epidemiology of Disasters (CRED) international disaster database (EM-DAT). The dataset includes disasters in Timor-Leste for the period 2000 through 2025 (August). EM-DAT classifies disasters as events resulting in 10 or more deaths, affecting 100 or more people, or triggering a declared state of emergency.[91]

The EM-DAT dataset was selected for use in this assessment based on its consistency with international organizations' practices for recording disaster events and their impacts across time and countries. As the present publication focuses on the potential involvement of foreign military assets in a disaster response within Timor-Leste, the publisher has chosen the EM-DAT dataset on the conclusion that any event that triggers foreign military assets' participation in a disaster response will, legally and logically, have a large-scale impact – i.e., loss of or disruption to human lives – and result in a request for international assistance from the government of Timor-Leste, with whom foreign governments will cooperate to deliver requested relief.

For the period 2000 through 2025 (August), the EM-DAT recorded 13 disaster events in Timor-Leste. All 13 were linked to natural hazards. Of the events, five were due to floods, three were epidemics, two were droughts, two were storm events, and one event was due to an earthquake. Recorded disaster events in the country were mostly hydrometeorological disasters, with floods and storms accounting for more than half the disaster events.

Figure 2 shows the types of disaster events in Timor-Leste over the past 25 years.

There were no distinguishable patterns related to spatial or temporal occurrence or impacts of the 13 events in the EM-DAT dataset. As expected, flooding clusters in the rainy season, and all municipalities in the country felt some effects of hydrometeorological – storm, flood, drought – events. Numbers of affected people were low, with the exceptions of two major droughts that affected large numbers of people, a reflection of their widespread food and water security impacts. Note that the Coronavirus Disease 2019 (COVID-19) pandemic was not included in the dataset.

Recent Disasters

The following is a list of some of the major disasters that have occurred in Timor-Leste over the past 10 years.

El Niño Drought – 2023-2024

Beginning in September 2023, an El Niño event led to drought-like conditions, delayed rainfall, and flash floods during the main planting season. Crop production and agricultural income fell, significantly impacting food security, especially among vulnerable populations in rural areas. In 2024, the UN team in Timor-Leste estimated that at least 241,000 people across 3 municipalities faced acute food and water insecurity.[92]

Dengue, Chikungunya, and Zika Outbreak – 2024

In early 2024, a triple outbreak of dengue, CHIKV, and Zika was reported in the country. The outbreaks occurred after the mosquito population spiraled out of control during wet and warm weather. It was the first time a CHIKV outbreak was recorded in the country. Nearly 200 dengue cases were reported in Dili and Ermera by February. It was unclear how many CHIKV and Zika cases were confirmed.[93]

TC Seroja – March-April 2021

Torrential rains accompanying the passage of TC Seroja from 29 March to 4 April 2021 affected the entire country and caused at least 44 deaths. Heavy rains, flooding, and landslides damaged critical infrastructure and impacted

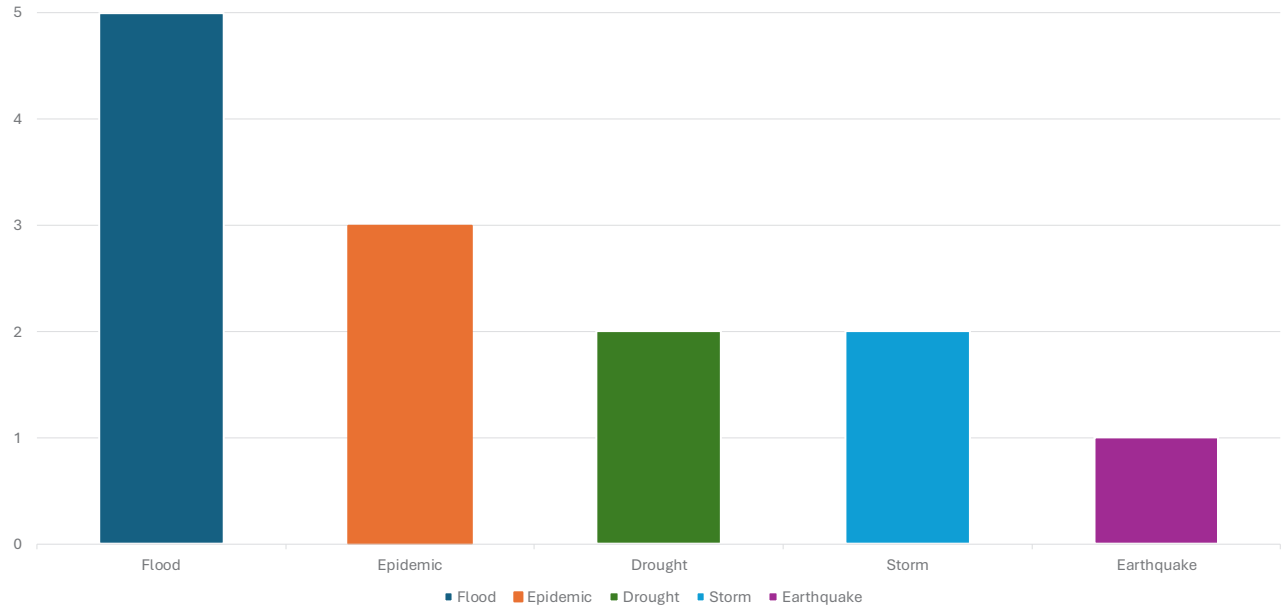


Figure 2: Disasters, by Hazard, Timor-Leste (2000-2025)

rural areas, livestock, and agriculture. The flash floods were reportedly the worst in the country in some 40 years.[94] A total of 33,177 households were affected, the majority in Dili. Around 28,000 houses were destroyed, and 2,363 hectares (5,839 acres) of agricultural land were damaged. Some 15,876 people were displaced and temporarily housed in 31 evacuation centers. The country was already under a state of emergency due to the COVID-19 pandemic, and on 8 April 2021, the government declared a state of calamity due to TC Seroja and requested international assistance.[95] Total damages from the cyclone were estimated at US$308 million.[96]

Floods and Landslides – March 2020

On 13 March 2020, thousands of people were affected by floods and mudslides triggered by heavy rains. Some 190 houses were destroyed by floods and mud. Around 1,664 households (9,126 people) were affected in total. In Dili municipality, the rains damaged vehicles, houses, and electrical lines. The worst affected sub-districts in Dili were Cristo Rei, Nain Feto, Dom Aleixo, and Vera Cruz, as well as Hera, outside of Dili. The floods also affected school schedules and contaminated water supplies, leading to health issues.[97]

COVID-19 Pandemic – 2020

Like the rest of the world, Timor-Leste was affected by the COVID-19 pandemic. It experienced its first case in early 2020. Data collected by Johns Hopkins University indicated that there were 138 deaths and 23,419 cases recorded by 10 March 2023, when the university stopped tracking cases for the country. Transmission of the virus was widespread. Between January 2020 and December 2022, Timor-Leste experienced three waves of community transmission. Data suggest that nearly half of the country's citizens had been infected by the virus at least once by October 2021.[98]

Drought – 2019

From May to November 2019, the country experienced below normal rainfall, with only a few districts experiencing normal rainfall. Nearly 1 million people experienced more than 30 days without rainfall, a statistic interpreted as a very long drought. Around half of the total affected population experienced more than 60 days without rainfall, a period characterized as an extreme drought. During the first half of November, an estimated 200,000 hectares (494,211 acres) of crop areas (about one-third of all crop areas in the country) suffered extreme or severe drought.[99]

TC Lili – May 2019

TC Lili was a Category 1 off-season cyclone, which first formed over the north Timor Sea on 9 May 2019. TC Lili brought high rainfall (60-200 millimeters [2.4-7.9 inches]) when it approached Timor-Leste, and the storm caused wind damage and flooding in the south and east of the country. Flooding in parts of the country damaged 72 houses and 3 bridges, and it killed 3 people. Areas near Lospalos and Baucau were among the worst-hit areas. TC Lili dissipated when it made landfall on 11 May.[100]

Drought – 2015-2016

An El Niño-induced drought affected nearly 80% of the population and caused over 40% to experience severe food insecurity in 2015 and 2016.[101] The drought led to water and food shortages across the country, as it caused crop failure, reduced family income, and led to the deaths of 70,000 head of livestock.[102] Around 400,000 people were affected in Lautém, Viqueque, Baucau, Oecussi, and Cova-Lima, with around 120,000 of those being seriously affected.[103]

Earthquake – November 2015

On 4 November 2015, a M6.3 earthquake struck Dili, where it caused minor damage and no reported casualties. Some buildings were damaged, and telephone lines were temporarily affected. Aftershocks measuring M5.7 and M4.9 followed, but no damage was reported.[104]

DISASTER MANAGEMENT POLICY, PLANNING, AND RESPONSE

Since 2022, the CPA – officially referred to in Portuguese as Autoridade de Proteção Civil (APC) – has held the mandate for DM at the national and municipal levels. Municipal authorities also hold civil protection responsibilities within their respective jurisdictions. The CPA coordinates national civil protection actions and ensures the integrated management of prevention, preparedness, response, recovery, and post-disaster relief operations. At the local level, municipal and regional authorities are responsible for preparedness and response within their territories, and they work in coordination with the CPA municipal offices. Municipal Councils for Civil Protection fill the role of advisors to municipal leadership. Government ministries also maintain sectoral plans and standard operating procedures for disaster situations.

National Disaster Management System

The National Civil Protection Council (Conselho Nacional de Proteção Civil), as established in the Civil Protection Law of 2020, is intended to bring together the heads of government ministries and agencies to address DM from a whole-of-government policy perspective. Its membership includes leadership from the fire service, national military, police, and the immigration service. The President of the Council may, when deemed appropriate, invite other entities to participate in the Council's meetings. The Council may propose to the Council of Ministers technical norms and standards for adoption and institutionalization within the CPA and the national civil protection system, including review and submission of the National Civil Protection Emergency Plan (NCPEP). It also reviews, endorses, and may approve other types of emergency plans, such as Municipal Emergency Plans and Contingency Plans.[105]

Civil Protection Authority

The CPA is the lead agency for implementing and coordinating DM activities. It operates under the authority of the Ministry of Interior and serves as a key actor within the national security infrastructure. Furthermore, the current governance structure includes a Secretary of State for Civil Protection, empowered by the Minister of Interior to oversee and implement studies and policies in several key areas, including regional and international cooperation and early warning.

The CPA maintains offices at the national, municipal, and regional levels, with municipal offices organized as Comandos Municipais (Municipal Commands) and a Regional Command for Oecussi.[106] The national headquarters coordinates Civil Protection Agents' work as they intersect with the whole-of-society national security sector. As such, the CPA conducts surveys, forecasts and assesses collective risk, organizes the national alert and warning systems,[107] and oversees compliance with national safety and civil protection regulations – including building fire-safety inspections and certification, carried out through the national fire service.[108]

The passage of the Civil Protection Law in 2020 paved the way for the establishment of the CPA. Its organizational structure has since been revised a few times through decree-laws and ministerial diplomas proposed by the Ministry of Interior and agreed to by the GoTL. The latest and current structure was enacted in May 2024 by Decree-Law No. 23/2024.[109]

Within the CPA, there is a President, an Executive Director, and a National Commander for Civil Protection Operations.[110] The President exercises overall leadership and is responsible for overall management and institutional representation. The Executive Director oversees administrative, financial, and logistical management. The National Commander directs

operational coordination and command of civil protection operations.[111] There are six directorates within the CPA:

- National Fire Brigade Directorate (Direção Nacional dos Bombeiros, DNB)
- National Prevention and Mitigation Directorate (Direção Nacional de Prevenção e Mitigação, DNPM)
- National Emergency and Response Directorate (Direção Nacional de Emergência e Resposta, DNER)
- National Recovery Directorate (Direção Nacional de Recuperação, DNR)
- National Disaster Risk Management Directorate (Direção Nacional de Gestão de Riscos de Desastres, DNGRD)
- National Resource Management Directorate (Direção Nacional de Gestão de Recursos, DNGR)

Each of the directorates maintains responsibility for programming related to its expertise and coordinating this programming with municipal authorities.[112] Figure 3 is the CPA organizational structure.[113]

In 2022, the government adopted, by decree-law, a single national emergency telephone number – 112 – to replace separate lines previously used to reach the National Police (Polícia Nacional de Timor-Leste, PNTL), ambulance services, and firefighters.[114] The CPA's Operations Center, also known as the Civil Protection Operations' Room, operates the 112 service and forwards calls to the Civil Protection Service or Agent (national, municipal, post, PNTL, fire, etc.) with jurisdiction. The Operations Center also monitors early warning information and bulletins from local, national, regional, and international sources and disseminates that information to the appropriate recipients. Finally, the Operations Center evaluates and quantifies data on the victims and damage caused by disasters, and it keeps a database to inform CPA leadership.[115]

The NCPEP was drafted in 2024 by the CPA with the objective of defining specific response mechanisms related to the scope and scale of a disaster. While still in draft as of mid-2025, the NCPEP is intended to align with the ASEAN Joint Disaster Response Plan.[116] The NCPEP lays out three levels of action:

- Alert Level I (Alert Situation) is within the capacity of local authorities to respond on

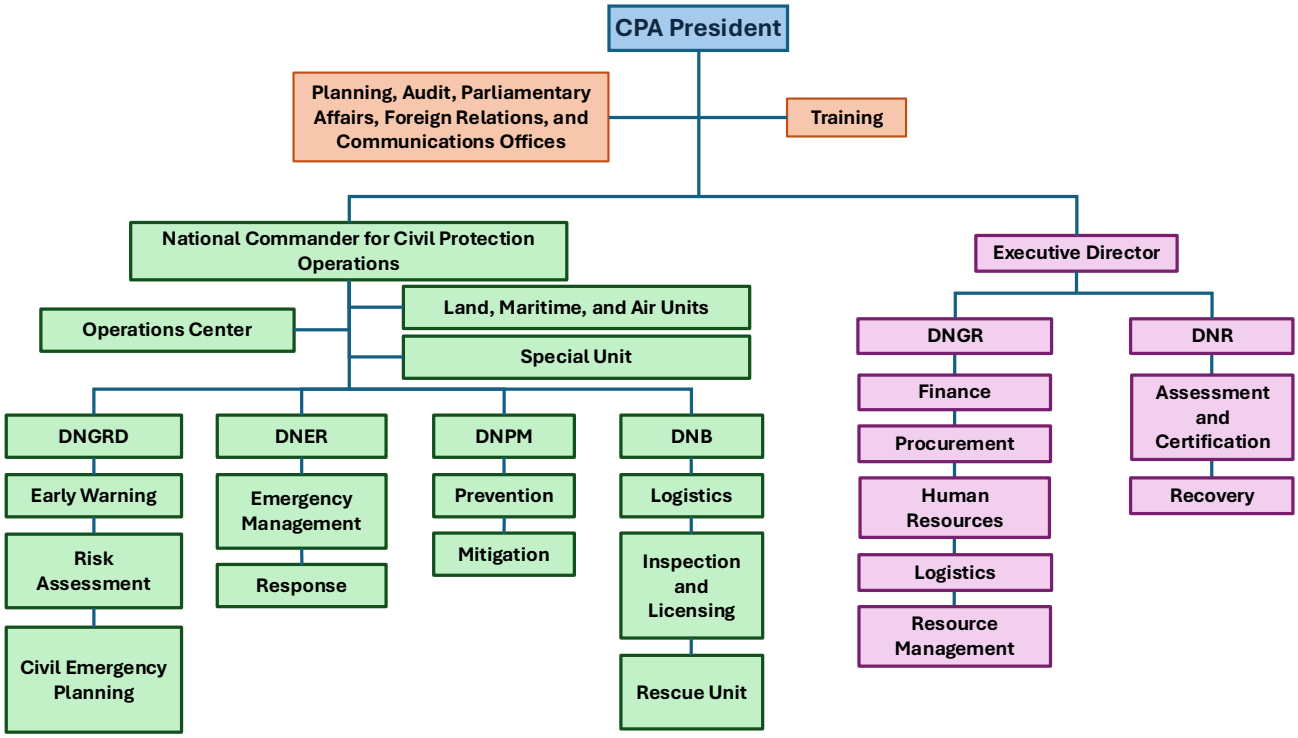


Figure 3: Civil Protection Authority Organization Structure

their own
- Alert Level II (Contingency Situation) requires inter-government coordination of a national response to support the local response following a large-scale disaster
- Alert Level III (Calamity Situation) requires an all-of-society approach and coordinated response

Coordination is led by the Humanitarian Partners Group, co-chaired by the President, CPA, UN Resident Coordinator, and NGOs.[117] Figure 4 illustrates the levels of authority for overseeing response operations and coordination.[118]

The Integrated Protection and Relief Operations System (SIOPS) was drafted by CPA as an operational framework for DM.[119] Constructed as a set of regulations that detail the structure, operational procedures of CPA, and authorities held by emergency services,[120] SIOPS is intended to coordinate activities by PNTL, armed forces, local administration, and firefighters under a single command.[121] As of mid-2025, it had not received national government approval.[122]

On other aspects, the CPA's operational capacity for response has been strengthened through the construction and renovation of evacuation centers, an improved distribution system for non-food items, and increased community awareness on disaster management and response.[123]

Logistics Working Group

A Logistics Technical Working Group (LTWG) was formalized in 2025 to strengthen emergency logistics coordination in the country. The LTWG was a result of initial recommendations from a 2024 Humanitarian Logistics Preparedness Inception Workshop. The World Food Programme (WFP) and CPA held consultative meetings to draft Terms of Reference (ToR) for the group. In June 2025, the CPA led a second workshop with support from the WFP and the Global Logistics Cluster Field Based Preparedness Project (FBPP); participants validated the ToR for the LTWG and formalized the group. The LTWG identifies humanitarian logistics needs, challenges, and priorities, and it will provide guidance for agencies under the Ministry of Interior's leadership.[124]

In 2024, Timor-Leste was recommended to the Global Preparedness Network as a new country candidate to implement the Logistics Cluster's FBPP. The project aims to strengthen the capacity of national actors, ensure a coordinated approach to improving

Level of Response	Authority	Actions
Level 1 – Alert Local-level emergency	Municipal Administration (lead) CPA Municipal or Regional Commander (support and coordination) Operations Center (monitoring, mobilization)	Preventative actions, planning, and response operations; local leadership communicates gaps to higher authorities
Level 2 – Contingency Involves two or more municipalities	President, CPA, Operations Center (lead) CPA Municipal and Regional Commanders (execute)	National CPA resources mobilized; Operations Center supports local responders; inter-government coordination
Level 3 – Calamity Major damage – physical and economic – and a significant number of victims	President (lead) CPA (coordinate) Whole society (execute)	National leadership oversees CPA and authorizes exceptional measures to save lives and property; multi-stakeholder humanitarian coordination involves present UN agencies, donors, and independent organizations

Figure 4: Levels of Alert and Response

local humanitarian supply chains, and support information exchange to make sure key actors are prepared for joint humanitarian logistics responses. The Global Logistics Cluster can support national actors should the government request international assistance after a major disaster. Learning from the lessons of the TC Seroja response, the FBPP aims to improve the CPA's humanitarian logistics preparedness. As part of the initiative since July 2024, a National Preparedness Officer (logistics) has taken up a role in the FBPP to initiate the project in close collaboration with the CPA.[125]

Anticipatory Action

In 2025, the CPA developed the Anticipatory Action Road Map 2025-2029. Anticipatory Action is gaining popularity as a DM approach that enables humanitarian and development actors to mitigate and minimize the impact of "predictable" emergencies since the availability and improvement of hazard forecasting and early warning systems have enabled better anticipation of disasters. The road map aligns with the ASEAN Framework on Anticipatory Action in Disaster Management. Anticipatory Action for Timor-Leste is defined as: "Action taken based on a forecast, early warning or pre-disaster risk analysis before an imminent anticipated disaster to mitigate the impacts with flexible financing." The plan provides a blueprint and way forward for mainstreaming the approach. It outlines key actions and expected results over the five-year period. An Anticipatory Action Technical Working Group stood up to help DM practitioners in the country achieve progress towards these goals. The CPA hopes the road map will make additional contributions to the ASEAN framework and contribute to the 2023–2027 regional road map of the Asia-Pacific Technical Working Group on Anticipatory Action.[126]

Subnational and Local Implementation

While the CPA is the central national agency responsible for national-level DM and coordination, municipal authorities focus efforts on preparedness and response. Generally working autonomously, they coordinate with national agencies. Municipal Councils for Civil Protection play an advisory role to the leaders of municipal authorities.[127]

In general, responsibility for DM is decentralized, and the municipality (formerly "district") serves as the focal point through the Municipal Disaster Management Committee (MDMC). The administrative post and suco DM committees (PDMC and SDMC, respectively) are key coordinators for responses within their jurisdictions. Table 2 describes the make-up and roles of each level of subnational DM.[128]

Based on Ministerial Diploma No. 85/2023 from the Ministry of State Administration, Dili's Municipal Civil Protection and Natural Disaster Management Service falls under the municipal authority. Their mission is to execute municipal-level policies related to civil protection, disaster prevention, and assistance to victims of disasters. A Municipal Civil Protection Service consists of three departments – Planning and Management of Civil Protection Equipment, Prevention and Information, and Emergency Relief and Operations – each of which focuses on specific tasks, as laid out in the Diploma. These tasks include but are not limited to:

- Collecting and studying information necessary for developing and formulating

Disaster Management Committee	Leadership, Make-up, and Role
Municipal Disaster Management Committee (MDMC)	Includes representatives of government agencies, NGOs, and community representatives
Post Disaster Management Committee (PDMC)	Led and coordinated by sub-municipal (post) administrators, who are responsible for coordination of all emergency and DRR activities
Suco Disaster Management Committee (SDMC)	Led by Suco Chiefs (Xefe Suco) and village leaders; responsible for all response, recovery, and DRR activities

Table 2: Subnational Disaster Management Committees

municipal emergency and civil protection plans and their corrections or updates, in coordination with the CPA
- Formulating and submitting to the Municipal Authority President proposed Municipal Emergency and Civil Protection Plans and Evacuation Plans for Public Buildings and Collective Facilities in Emergency Situations
- Promoting actions necessary to implement the municipal emergency and civil protection plans
- Studying, developing, and submitting for approval by the Municipal Authority President the proposed Municipal Forest Fire Prevention and Control Plan, in coordination with the Municipal Public Works and Health Services and the CPA
- Promoting actions to implement the municipal plan for the prevention and combat of forest fires, in coordination with the Departments of Municipal Public Works, Transport, and Agriculture
- Programming, planning, and executing forest fire prevention actions in state forests, in cooperation with the CPA
- Conducting inspections and identifying forest fire risks in community or privately owned forests
- Determining and identifying community or individual measures necessary to eliminate or mitigate the occurrence of forest fires in community or private forests
- Providing support to the CPA, firefighters, police, military forces, and health professionals to carry out emergency actions and civil protection
- Collecting and studying the information necessary to identify territorial areas at high risk of natural disasters, in coordination with the CPA
- Studying, developing, and executing public information and awareness actions on the risks of natural disasters and methods and strategies to reduce the risks and consequences of natural disasters, in coordination with the CPA
- Studying, developing, and submitting for approval by the Municipal Authority President a natural disaster management manual, as well as any updates and corrections, in coordination with the CPA
- Receiving, inventorying, storing, and preserving in good condition for consumption or use food, materials, and equipment necessary to respond to emergency situations
- Ensuring distribution to affected populations of food, shelter, materials, and equipment necessary for survival or to safeguard physical and mental well-being, in coordination with the CPA
- Performing other duties in the field of civil protection, prevention and control of forest fires, and disasters caused by natural or human causes, necessary for the performance of the responsibilities of the Municipal Authority[129]

At suco and municipality levels, the DM plan is prepared by identifying response initiatives delivered by local authorities and communities during disasters and in the damage assessment and recovery phase.[130]

There have been recent activities to raise awareness of DRR and risk mitigation in six sucos in Manatuto, Lautém, and Viqueque. Disaster drills on floods and landslides were also held with local communities. Additionally, information is increasingly being shared on the health impacts of disasters. Women in communities are being empowered to take on leadership roles in volunteer groups, and many are learning how to operate early warning equipment, manage evacuation procedures, and assist vulnerable groups.[131]

Some municipality coordination councils integrate traditional knowledge into local-level DRR practices and plans. A traditional Timorese custom called Tara Bandu has been utilized in contributing to strengthening DRR at municipality and suco levels. Tara Bandu "enforces peace and reconciliation through the power of public agreement to define social norms and practices acceptable to most of the communities." It has been recognized across the

country and internationally for its contributions to DRR,[132] as it includes the traditional written rules that determine specific sanctions and punishments for specific activities related to natural resources and the environment. Further, it suggests communities should take proactive action to develop operational capabilities and facilitate an effective response in the event of an emergency.[133]

Civil-Military Coordination in Disaster Response

The Timor-Leste Defense Force (Falintil-Forcas de Defesa de Timor-Leste, F-FDTL) is mandated to cooperate with civil authorities to support humanitarian operations. It sits on the National Civil Protection Council and contributes to policy and implementation. It specializes in search and rescue during emergency responses.[134] The forces continue to strengthen their own capacity not only to support civil protection responses but to build resilience across F-FDTL facilities and units, with the support of key bilateral partners.

F-FDTL has air, naval, and land components. The Land Component is primarily an infantry force with specialist capability to deliver logistical support during emergencies.[135] The naval component's missions include search and rescue,[136] and the air component is focused primarily on supporting the land and naval components through mobility, surveillance, and logistics, especially for reaching remote areas.[137] There are also four support forces – the training center, service support (transport, maintenance, health, and supply), engineering, and communications.

The Engineering Unit is among the key F-FDTL actors for disaster response. They are especially active in constructing temporary shelters, distributing relief items, rehabilitating and reconstructing damaged areas and infrastructure, and partnering with local and international NGOs to plan and implement humanitarian projects. Separately, in the past decade, F-FDTL has played a role in responding to health crises, notably the COVID-19 pandemic. It has partnered with health providers to deliver awareness campaigns and services and delivered logistics support to medical responses – e.g., transporting patients, enforcing border controls, and distributing vaccines and medicines.[138]

The F-FDTL maintains direct cooperation with resident missions of the defense institutions of four countries – Australia, Indonesia, the People's Republic of China (PRC), and Portugal – and it has strong capacity development partnerships with three others.

- The bilateral Timor-Leste – Australia Defence Cooperation Program (DCP) covers training, technical support, infrastructure, and security partnerships.
- Cooperation with Indonesia comprises joint training, knowledge exchanges, and mutual support against terrorism and transnational crime.
- The PRC has delivered equipment, training, and defense infrastructure to F-FDTL, and it provides educational programming and scholarships for F-FDTL personnel.
- Portugal's technical cooperation with F-FDTL has focused on building the force's structure and operational capacity.
- Brazil's armed forces have delivered training, leadership, and technical capacity development.
- New Zealand delivers the Mutual Defence Partnership (MDP) with a focus on operational training, leadership, and capacity development, with some work on infrastructure and strategy.
- The bilateral military relationship with the U.S. emphasizes leadership development, training, and security cooperation, some of which supports infrastructure projects and military diplomacy.[139]

The bilateral Defence Cooperation Agreement that links Timor-Leste and Australia dates to 2022. The implementation of the Agreement via the DCP encompasses year-round engagements ranging from basic skills training through the delivery of patrol vessels to F-FDTL. Operational and maintenance support by Australian Defence Forces (ADF) to F-FDTL

covers a spectrum of needs,[140] especially those requirements to ensure that F-FDTL facilities and their surrounding communities can build resilience to natural hazards. In addition to ADF's sustained presence in the country, Australia's annual Indo-Pacific Endeavour mission throughout the Indian and Pacific Ocean regions supports DCP activities in Timor-Leste.[141]

While ADF and U.S. armed forces units often participate in shared exercises and trainings with F-FDTL, the U.S. also undertakes separate activities that help the Timorese forces build skills and capacities that support their mission of delivering military aid to civil authorities during disasters.

In April 2025, the U.S. handed over an Aircraft Hangar and a Humanitarian Assistance and Disaster Relief Warehouse to the F-FDTL Air Component in Baucau. The delivery was intended to enhance the Timorese forces' operational readiness,[142] and it came after the U.S. armed forces undertook several projects in cooperation with Dili to rehabilitate Baucau Airfield. That work culminated in a flight by U.S. Marine Corps MV-22 Ospreys between Dili and Baucau in 2022. This demonstration was intended to focus on the aircraft's ability to operate in difficult terrain, including the terrain types that prevail in Timor-Leste.[143]

Among other key training events that link the U.S. and Timorese military forces is Pacific Partnership, an annual U.S. Navy mission that visits countries throughout the Indo-Pacific region to increase the efficiency of multinational coordinated operations, including disaster responses. F-FDTL has participated several times since 2006, and a major 4-day humanitarian assistance and disaster response symposium was part of the 2016 mission that visited the country.[144]

International / Regional Organizations

Because of the limited resources available within the country, Timor-Leste has built strong relationships with international partners who enhance domestic capacity. Timor-Leste is an active member of the UN. In October 2025, the country joined ASEAN. For the purposes of DM, both of these inter-governmental organizations play key roles in preparedness, mitigation, response, and recovery. When a disaster strikes Timor-Leste, Dili will have the option to seek assistance from its fellow ASEAN member states (AMS) and from the international community. ASEAN and UN actors may play important roles in coordinating relief from humanitarian groups and foreign donors. The GoTL, as the affected state, will determine what coordination structures it prefers – e.g., a Joint Operations and Coordination Centre of ASEAN (JOCCA), a UN-led On-Site Operations Coordination Center (OSOCC), both, or something else.

Association of Southeast Asian Nations

Timor-Leste's 2025 accession to ASEAN is a milestone that marks the culmination of Dili's long-standing effort to integrate into the regional bloc, including its DM planning and execution. Dili is now integrating ASEAN agreements, strategies, and mechanisms into its own national policies, plans, and programs. In line with this commitment, Timor-Leste had already, on a voluntarily basis, contributed to the ASEAN Disaster Management and Emergency Relief Fund through Government Resolution No. 41/2023, demonstrating early solidarity with ASEAN's collective disaster preparedness and response mechanism.[145]

ASEAN now comprises 11 AMS, all of whom sign onto the legally binding ASEAN Charter (2008), which lays out the framework for economic, social, cultural, technical, scientific, and administrative collaboration and mutual assistance.[146] The shared values of solidarity and mutual assistance drive the overall DM philosophy and the operation of DM mechanisms.

Under the committee of ASEAN national leaders, the ASEAN Socio-Cultural Community oversees the Disaster Management and Humanitarian Assistance (DMHA) Division, which manages cooperation, supports the ASEAN Committee on Disaster Management

(ACDM), and monitors implementation of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER). The DMHA Division also supports the ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre).[147]

Outside of periods of emergency, ASEAN's standing ministerial bodies, committees, working groups, and task forces address aspects of DM. Most importantly, the ACDM serves as ASEAN's lead body for humanitarian assistance and disaster response (HADR). It coordinates with all other ASEAN strategic agencies through the Joint Task Force on HADR and reports to the annual ASEAN Ministerial Meeting on DM.[148]

During a disaster, there are three levels of intra-ASEAN coordination:

- Strategic: The ASEAN Secretary-General, acting as the ASEAN Humanitarian Assistance Coordinator (SG-AHAC), and the AHA Centre work within the AHA Centre's Emergency Operations Center (EOC) in Jakarta.[149] Other high-level stakeholders may include Permanent Missions to ASEAN, Defense Attachés, heads of UN agencies, representatives of the International Red Cross and Red Crescent Movement, civil society, and the private sector.[150] Note that the SG-AHAC is not always activated; this activation is most common when a disaster is very large, multi-country, or in a politically sensitive geographic space.[151]
- Operational: Within an affected country, the AHA Centre's forward deployed teams are embedded in the national disaster management organization's EOC alongside other coordination and liaison officers.
- Tactical: Within the affected area, the ASEAN Emergency Response and Assessment Team (ERAT) manages a JOCCA.[152]

ASEAN Coordinating Centre for Humanitarian Assistance on disaster management

The AHA Centre is mandated to serve as the regional operational coordination center for DM plans, operations, and resources. It facilitates cooperation and coordination among AMS and among ASEAN agencies, UN entities, and other international agencies in support of regional collaboration.

The AHA Centre reports directly to the National Disaster Management Organizations of the AMS, which collectively form both the AHA Centre's governing board and the ACDM.[153] Based in Jakarta since its founding in 2011, the AHA Centre fulfills four core functions, as illustrated in Figure 5.[154]

Managed and trained by the AHA Centre but collectively owned by the AMS, the ASEAN ERAT is a rapidly deployable team that supports an affected state during the initial stages of a disaster response. It is made up of individuals drawn from AMS' NDMOs, government and military agencies, and civil society. There are more than 350 trained ASEAN-ERAT members, representing all AMS. They are all trained to conduct standardized assessments, logistics, information management, on-site coordination, and emergency telecommunications.[155]

The JOCCA is an on-site, physical structure to house coordination processes and personnel from ASEAN or the AMS. If requested by the affected state, it acts as a single point of service for the affected state or other actors to interface with ASEAN actors involved in a response. Moreover, it can provide space for interaction and information sharing among AMS civilian and military personnel, UN agencies, and other international organizations, and non-ASEAN civilian and military responders.[156]

The AHA Centre also hosts a military representative (MILREP), who is from the armed forces of the AMS holding the ASEAN Chair at any given time. The MILREP can serve as a focal point for AMS and non-ASEAN members to coordinate military issues via the AHA Centre, and the MILREP can carry requests to their own military force. However, the MILREP is not a focal point for overall civil-military coordination within the AHA Centre.[157]

The Disaster Emergency Logistics System

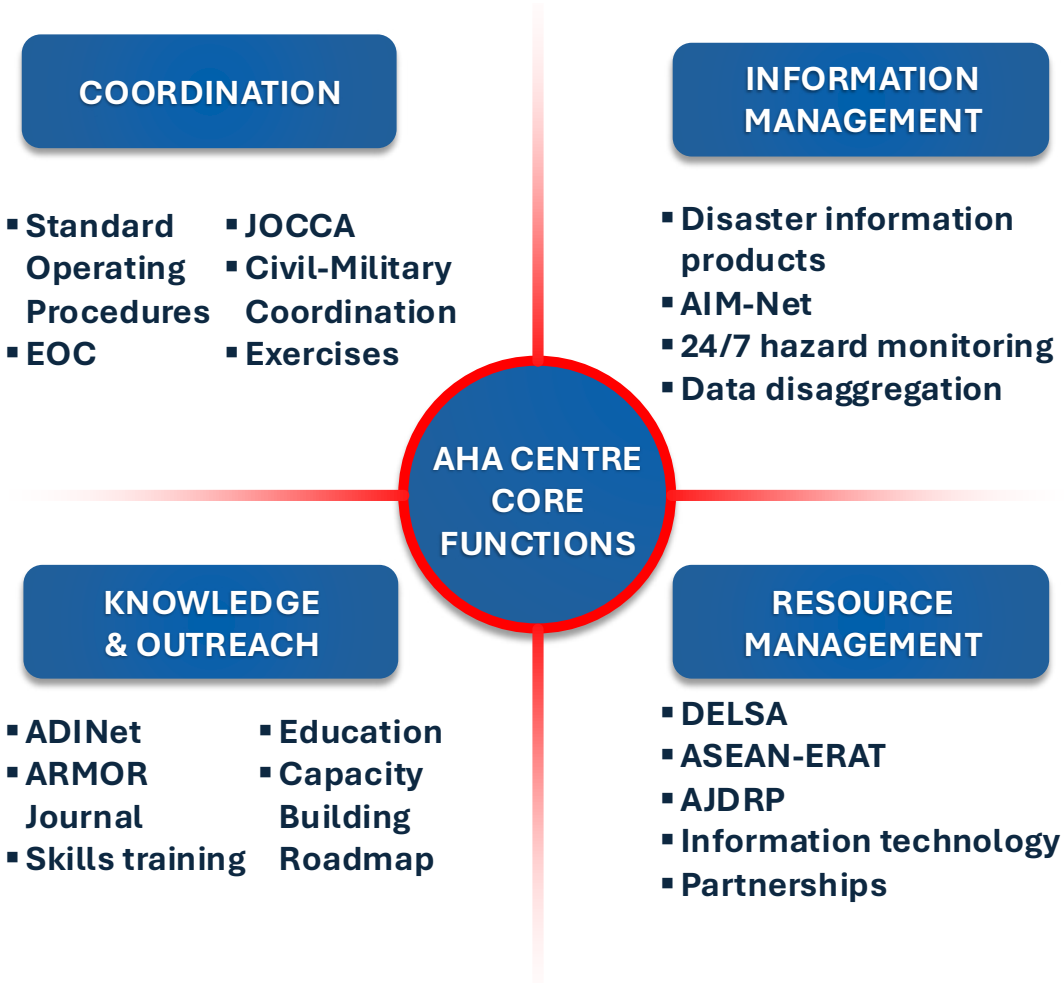


Figure 5: AHA Centre Functions

for ASEAN (DELSA) allows swift delivery of relief items from ASEAN stockpiles to disaster-affected AMS. The DELSA integrates emergency stockpiles, institutional capacity for logistics, and communication. The AHA Centre has partnered with the WFP – UN Humanitarian Response Depot (UNHRD) on technical aspects of the DELSA, and the AHA Centre coordinates directly with AMS' national disaster management organizations to distribute stockpiled relief goods.[158]

ASEAN Documents

The AADMER (2009) is the foundational document that commits AMS to reducing disaster loss, responding collectively to disasters, and supporting resilience. The AADMER institutionalizes leadership of the affected state(s) for all response operations, and it recognizes the role of regional military forces in DM.[159] Article 20 of the AADMER established the AHA Centre.[160]

The AADMER mandated the development of the Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP) to unify actions taken by AMS and the AHA Centre during a disaster response. The SASOP provides guidance and templates for procedures and operations to facilitate the use of both civilian and military resources. Under the SASOP, each AMS has designated a focal point for intra-ASEAN DM communication.[161]

In support of the SASOP's objective of unifying action, the ASEAN Joint Disaster Response Plan (AJDRP) provides a shared vision of delivering disaster relief by mobilizing assets and capabilities from within AMS and from external sources. It details the types of

response capacity that may be needed and encourages AMS to earmark resources and make them available for mobilization via Standby Arrangements.[162]

Regional Consultative Group

Timor-Leste is a participating member of the multi-stakeholder Regional Consultative Group (RCG) on Humanitarian Civil-Military Coordination for Asia and the Pacific. The RCG was formed in 2014 to act as a regional forum and bring together the humanitarian community with government officials and military actors involved in disaster response and response preparedness planning in the region. The RCG Co-Secretariat includes the UN Office for the Coordination of Humanitarian Affairs (OCHA) Regional Office for Asia and the Pacific (ROAP), the Australian Civil-Military Centre (ACMC), and the CFE-DM. The chair of the RCG is rotated among member-states on a bi-annual basis, and, in 2023-2024, the GoTL was the Chair of the RCG. The RCG Ninth Session was held in Dili, 4-6 December 2023.[163]

United Nations

The UN Country Team (UNCT) in Timor-Leste comprises 25 UN entities, of which 17 are resident in the country and coordinate work through the UN Resident Coordinator's Office (RCO).[164] The UN RCO provides strategic coordination of UN development activities and coordinates UN humanitarian response activities in the country during emergencies, while engaging with government leadership.[165] UN system agencies with roles in various stages of DM or humanitarian action include the International Organization for Migration (IOM), UN Development Programme (UNDP), the UN Office for Disaster Risk Reduction (UNDRR), UN Children's Fund (UNICEF), WHO, Food and Agriculture Organization (FAO), and WFP.

Various government bodies, UN agencies, and international and national NGOs all participate together in the sector- or cluster-based coordination system. Sectoral coordination is led or co-led by government line ministries, often with UN and NGO sector focal points.[166]

<u>Food and Agriculture Organization</u>

Among other programs and activities in Timor-Leste, the FAO co-chairs, with the CPA, the Anticipatory Action Technical Working Group. It works with other stakeholders to build early warning systems for hydrometeorological hazards in the country and has helped develop anticipatory action protocols for agriculture. This latter effort supported authorities' early action in 2023, when the government implemented drought anticipatory action to mitigate impacts.[167]

<u>International Organizations for Migration</u>

IOM has supported Timor-Leste's DRR programming since 2012. Working with various national and municipal agencies, IOM has sought to reduce vulnerabilities of communities, and they have been especially active in supporting public awareness, mass media engagement, and information sharing for risk reduction. Training for mass media on how to communicate risk information nationally has aimed to build public understanding of how to behave in emergency situations and to increase awareness of hazards.

Over the past decade, IOM has been a key partner to civil protection authorities in developing an information management system to collate data on disaster impacts. The objective is to allow national and municipal disaster managers to plan, make policies, and deliver programs by sharing experiences and expertise. Moreover, IOM supported the U.S. Forest Service is introducing the Incident Command System (ICS) for DM. This systemic method for responding to emergencies ensures that stakeholders share information, mobilize resources, and coordinate effectively.[168]

As recently as late 2024, IOM supported suco-level flood simulation exercises in coordination with Lautém municipal authorities,[169] and municipal-level cyclone response exercises in Oecussi.[170] The exercises mobilized IOM-trained, at-risk community members to carry out emergency action plans and safely evacuate before emergencies. By integrating civil society and community

members in these exercises, vulnerabilities were reduced.[171] In addition, IOM works on key migration and displacement challenges, with a focus on strengthening community, household, and personal preparedness and risk mitigation.

United Nations Development Programme

UNDP is a broad-spectrum development partner in Timor-Leste. The organization's work on DM focuses on ensuring that government staff and stakeholders involved in DM have the skills and tools necessary to meet the objectives of national disaster risk management (DRM) strategies. Activities under this line of effort include training and support to first responders and government coordinators. During the second half of 2025, UNDP delivered a series of training courses on the TERS, in cooperation with the CPA. The 3-day refresher course for national, municipal, and local responders focused on skills such as data collection, hazard identification, loss and damage assessment, and response.[172]

More broadly, to support DM, UNDP works with the Ministries of Public Works and the Environment to build and maintain durable roads, bridges, irrigation systems, water and sanitation facilities, and energy infrastructure to help communities withstand and rebound from hazard events. One key program is building solar power systems for public buildings to ensure electric power service continuity and, therefore, social service continuity during emergencies.[173]

World Food Programme

WFP is one of the government's key partners in training for and coordinating emergency response. It participates in several national working groups to reduce vulnerability and disaster impacts by strengthening both food systems and national disaster response capacity. As part of its strategic country plan, WFP maintains the capacity to provide food assistance to disaster-affected populations, and it co-leads the Food Security and Logistics clusters during response operations.[174]

In December 2024, the WFP and the CPA co-hosted a Simulation Exercise (SimEX) to evaluate and strengthen national and subnational stakeholder capacity to prepare for and coordinate a large-scale disaster response. Using a scenario based on a flood and cyclone, participants were asked to apply concepts within the NCPEP; specific tasks tested planning, coordination, information sharing, and decision-making. Participants were required to establish operational centers, manage information flows, draft response plans, and coordinate with multiple stakeholders as the scenario progressed from early warning through a Level II emergency and to a Level III disaster. In addition to the CPA's various branches, key participants represented the MDMCs of five municipalities – Baucau, Lautém, Manufahi, Oecussi, and Viqueque – as well as various NGOs and Timor-Leste Red Cross.[175]

Because of its role in preparedness, WFP is also a key partner for the CPA in enhancing early warning, prepositioning supplies, preparing for cash-based transfers, and building resilient agriculture. All of these programs support efforts to build protocols for anticipatory action, especially in terms of increasing the sustainability of food security.[176]

Other Disaster Management Partners

Timor-Leste's civil society is active in building community-level momentum on DRR. Long-standing stakeholders such as the Timor-Leste Red Cross and religious organizations are joined by smaller community-based organizations, all of whom work closely with the CPA or their local DMCs. Key international partners are also critical in funding and supporting work to build and train community members – i.e., the first line of defense against extreme hazards.

Humanitarian Country Team

Humanitarian Country Teams (HCT) bring together national and international stakeholders to coordinate relief during an emergency. In Timor-Leste, the HCT has been mobilized for major responses, notably during the 2015-

2016 and 2017 El Niño droughts. The Minister of Interior, Minister of Social Solidarity, UN Resident Coordinator, and PLAN International convene the HCT to ensure coordination and communication across the issues of preparedness, response, and early recovery. The HCT integrates UN agencies, international organizations, NGOs, and the International Red Cross and Red Crescent Movement in close collaboration with the GoTL. The UN RCO acts as the HCT Secretariat.[177]

In normal times, the HCT has been a platform for stakeholders to conduct shared contingency planning. In past disasters, it has facilitated information sharing – e.g., of needs assessments – and the framework under which humanitarian clusters are activated.[178]

International Red Cross and Red Crescent Movement

The International Red Cross and Red Crescent Movement is a global humanitarian network comprising the International Committee of the Red Cross (ICRC), International Federation of Red Cross and Red Crescent Societies (IFRC), and 191 National Societies, including the Timor-Leste Red Cross (Cruz Vermelha de Timor-Leste, CVTL).

The CVTL formed in 2000 and gained legal status as an auxiliary of the government for humanitarian action in 2005. The organization maintains a branch in each municipality.[179] The CVTL's mission is to prevent and alleviate suffering among the country's most vulnerable by delivering quality and accountable humanitarian services, improving community and institutional systems, and ensuring resources.[180] CVTL participates regularly in UN-led HCT meetings.[181]

The Disaster Management branch of the CVTL includes 350 staff and volunteers who make up the National Disaster Response Team and Branch Disaster Response Teams, all of which train regularly.[182] Across the Society, there are nearly 800 volunteers, many of whom are based in remote communities where DRR has become a key focus area of the CVTL as part of a larger national effort to adapt to changing hazards and build community-level resilience.[183]

CVTL response teams provide emergency WASH services, protection, shelter, non-food items, and livelihoods support to people affected by hazard events. They conduct needs assessments, distribute relief items, and coordinate with other response stakeholders. CVTL also participates in emergency management planning and training at the national and subnational levels to ensure that it can integrate with all levels of DMCs. As part of its response capacity, it maintains warehouses and shipping containers of prepositioned stocks and equipment, and it operates two inflatable boats for search and rescue.[184]

The CVTL played a key role in developing the national Anticipatory Action Roadmap (2025-2029), which provides a framework for government and non-government stakeholders to align anticipatory action objectives. This effort coincided with the development of a simplified early action protocol for floods, the IFRC's Disaster Response Emergency Fund (DREF) Early Action Protocol (EAP) for flood with implementation in five municipalities, approved in February 2025. This protocol is slated for implementation in 12 municipalities.[185]

In addition to partnerships across the Movement, the CVTL cooperates on national preparedness and response priorities with private foundations, civil society, UN agencies, and the Department of Foreign Affairs and Trade of Australia, the European Union, Japan, and South Korea.[186] It works closely with the national government, particularly the Ministry of Youth, Culture and Sport, Ministry of Social Solidarity and Inclusion, Ministry of Interior, Ministry of Health, an Officer supporting civil society under the Prime Minister, and national and subnational departments, especially those tasked with civil protection, the environment, and DRM.

The IFRC maintains staff representation in Timor-Leste, and it operates as part of the Country Cluster Delegation for Indonesia, Timor-Leste, Brunei Darussalam, and

Singapore. A staff member of the IFRC is the focal point for ensuring coordination between the CVTL and other Movement partners, especially regional National Societies. The CVTL EOC was established in 2022 with the support from the Australian Red Cross.[187]

The ICRC is a neutral, independent organization, based in Geneva, Switzerland. It is mandated to ensure humanitarian protection and assistance for people affected by armed conflict and other violence.[188] The ICRC has been present in Timor-Leste since 1977. It works with various government and military agencies, scholars, and civil society, including humanitarian organizations, to promote respect for International Humanitarian Law (IHL). It supports national first responders and humanitarians – especially the CVTL – on preparedness initiatives and can support emergency response by maintaining dialogue on regional humanitarian issues, including Dili's relationship with Indonesia.[189]

Australian Humanitarian Partnership

AHP's Disaster READY is implemented by a consortium of six Australian NGOs – CARE, PLAN International, Oxfam Australia, CAN DO / Caritas Australia, Save the Children Australia, and World Vision – along with more than 20 local civil society partners.[190] It is supported by funding from Australia's Department of Foreign Affairs and Trade.

Together, the AHP partners deliver risk reduction, adaptation, and emergency response programs across the country. At the community level, Disaster READY focuses on community-based DRM to ensure that people living with disabilities, women, and children are involved in disaster planning and that their needs are being met. Activities include community-based hazard mapping, development of action plans, analysis of local knowledge and weather prediction data, and support for local early warning systems.[191]

At the national and MDMC levels, Australian and local partners have worked to advocate for and plan responses and mitigation projects. During flooding in one suco in Oecussi-Ambeno in March 2024, plans in place allowed the local community DMC (CDMC) to support CPA action by delivering on-the-ground data and assessments of damage and need. Meanwhile, a suco in Viqueque utilized Disaster READY processes to work with national Ministries to gather resources to manage river flows more proactively and reduce flood impacts.

At the SDMC level, Disaster READY partners and donors deliver grants to allow SDMCs to implement small-scale DRM projects – e.g., water source protection, clean water tanks, and horticulture. As of mid-2024, Disaster READY NGOs helped establish CDMCs in 19 new communities; this development brought to 71 the number of communities with DRR action plans. Many of these plans are community-driven efforts to develop and socialize hazard maps, document evacuation routes, and conduct evacuation drills, including in schools. Moreover, small grants allow CDMCs to complete projects related to water catchment – for both safe water access and flood control.[192]

The AHP is also a major player in anticipatory action. Its five implementing organizations partner with local civil society groups across seven municipalities to implement anticipatory action projects.[193]

CRITICAL INFRASTRUCTURE FOR DISASTER MANAGEMENT

Timor-Leste is prioritizing the development of its infrastructure for logistical capacity, economic growth, and connectivity. The country started out facing outsized challenges in this sector prior to independence in 2002. In 1999, an estimated 70-80% of the infrastructure in Timor-Leste (then known as East Timor) was systematically destroyed or severely damaged by retreating pro-Indonesian militias.[194] Since then, significant infrastructure progress has been made, yet there is a considerable way to go for the government to meet its development goals.

The Timor-Leste Strategic Development Plan 2011-2030 identified the need to develop the network of roads, which are the primary mode of transport, to develop seaport infrastructure to facilitate import of critical goods, and to develop airport infrastructure for increased passenger capacity and to support the tourism sector. It also identified the need for an enhanced telecommunications network throughout the country to facilitate business and job growth as well as delivery of vital services including health, education, and security.[195]

Transportation

Transport infrastructure is a key target for investment as part of steps to diversify the economy. Development of airports, seaports, and roads is an important focus of the national strategic development plan. Dili International Airport is the main point of international air entry. Meanwhile, the relatively new Tibar Bay seaport handles the majority of the country's import and export cargo, a shift that allows the lower-capacity Port of Dili to focus on passenger vessels. Finally, many roadways have been paved in the last decade, though much of the road network consists of dirt roads, especially in rural areas. Despite the recent improvement to the road network, given the exposure of the country's roads to landslides and the lack of alternative routes, many rural areas of the country can be cut off during a disaster event. Air and maritime access to these areas is also lacking, which can leave many rural populations unreachable.

Airports

The aviation sector is regulated by the Civil Aviation Authority of Timor-Leste (AACTL), which falls under the Ministry of Transport and Communication (MTC).

Three airports are classified as international airports, but only Presidente Nicolau Lobato International Airport in Dili operates regular international commercial flights.

Table 3 lists airports in Timor-Leste along with basic information.[196] Much of the information in this section was drawn from the 2025 Logistics Capacity Assessment for Timor-Leste, which was conducted by the WFP-led Logistics Cluster and offers further details at: *https://lca.logcluster.org/timor-leste*

Presidente Nicolau Lobato International Airport

Presidente Nicolau Lobato International Airport**,** formerly known as Comoro International Airport,[197] is a major hub that can process most types of goods but lacks facilities to handle more complicated types of cargo. Warehouse space and cold storage are limited.

As of 2025, Lobato International can handle C-type aircraft (with approach speeds of 121-140 knots), and there are plans to upgrade it to handle E-type aircraft (with higher approach speeds of 166 knots or more, thus requiring a longer runway).[198] In August 2024, the GoTL approved projects to renovate the airport. Planned projects include runway extensions, construction of a Runway End Safety Area-standard apron, a new air traffic control tower, a cargo terminal, a passenger terminal, and upgrades to aeronautical and ground lighting systems. Security threats in the country are low. Potential safety issues may stem from the

Airport	Municipality & Coordinates	IATA / ICAO	Runway Dimensions & Elevation	# of Helipads & Diameter	Notes
Presidente Nicolau Lobato International Airport	Dili 8.5469111°S 125.5249694°E	DIL / WPDL	Dimensions: 1,850 × 30 m (6,070 × 98 ft) Elevation: 9 m (29 ft)	10 Helipads: 2 × 50 m (164 ft) 3 × 40 m (131 ft) 5 × 30 m (98 ft)	International
Baucau Airport (military)	Baucau 8.4854722°S 126.3993333°E	BCH / WPEC	Dimensions: 2,509 × 56 m (8,232 × 184 ft) Elevation: 541 m (1,777 ft)	Apron with space for 2 × Mil Mi-26 helicopters	Military. Used as humanitarian hub in previous emergencies.
Xanana Gusmao International Airport Suai	Cova Lima 9.2951889°S 125.2849056°E	UAI / WPDB	Dimensions: 1,500 × 30 m (4,920 × 98 ft) Elevation: 37 m (120 ft)	5 Helipads: 15 m (49 ft)	International
Rota Do Sandalo International Airport Oecussi	Oecussi 9.1983472°S 124.339025°E	OEC / WPOC	Dimensions: 2,200 × 45 m (7,218 × 148 ft) Elevation: 5 m (15 ft)	Apron with space for 2 × Mil Mi-26	International
Viqueque National Airport	Viqueque 8.8833333°S 126.3730556°E	VIQ / WPVQ	Dimensions: 15/33: 960 × 20 m (3,150 × 65 ft) Elevation: 30 m (100 ft)		Gravel airstrip. Not fenced. Local roads cross runway.
Atauro Island National Airport	Atauro 8.2430556°S 125.6061111°E	AUT / WPAT	Dimensions: 01/19: 700 × 20 m (2,296 × 65 ft) Elevation: 3 m (10 ft)		Gravel airstrip. Daytime operational.
Lospalos Fuiloro National Airport	Lautém 8.4475 °S 126.9877778°E	n/a / WPFL	Dimensions: 02/20: 750 × 20 m (2,460 × 65 ft) Elevation: 411 m (1,350 ft)		Grass airstrip. Not fenced. Local roads cross runway. Need approval before use.
Maliana Airstrip	Bobonaro 8.9722222°S 125.215°E	MPT / WPMN	Dimensions: 02/20: 750 × 20 m (2,460 × 65 ft) Elevation: 411 m (1,350 ft)		Gravel/ grass airstrip. Not fully fenced. Need approval before use.
Same Airstrip	Manufahi 9.0005556°S 125.6838889°E	n/a / WPSM	Dimensions: 18/36: 820 × 20 m (2,690 × 65 ft) Elevation: 335 m (1,100 ft)		Grass airstrip. Not fenced. Local roads cross runway.

Table 3: Details for Timor-Leste Airports

airport's location within the Dili city limits, surrounded by neighborhoods, and from damaged fences that may allow wildlife to wander onto the runway.

Baucau National Airport

Baucau National Airport has been used as a humanitarian hub during previous emergencies due to the runway size and quality. The airfield was jointly rehabilitated by the U.S. and Timor-Leste governments in 2022, when U.S. Air Force engineers worked with F-FDTL to support projects focused on construction of a new storage warehouse and repairs to the perimeter fence.[199] While Baucau has previously serviced international flights, it is currently only open to military and medical evacuation (medevac) flights. It was formerly known as Cakung Airport.

Xanana Gusmao International Airport Suai

Xanana Gusmao International Airport Suai

was inaugurated as an international airport on 20 June 2017. The former regional airport was renovated to meet International Civil Aviation Organization (ICAO) standards, upgrade the runway, and add a terminal with facilities for customs and immigration, as well as a fire station. The expanded airport contributes to the economic development of the southern region, which hosts oil and gas platforms as well as agriculture and other industries.[200] The airport now regularly receives private flights from Australia that service the oil industry. The airport also has five helipads, all 15 m (49 ft) in diameter, and these pads facilitate medevacs.

Rota Do Sandalo International Airport Oecussi

Rota Do Sandalo International Airport Oecussi was inaugurated as an international airport in 2019, following a two-year renovation project to meet ICAO and International Air Transport Association (IATA) standards. International flights are not regular but are allowed by permission from AACTL. Renovations included a passenger terminal to accommodate 500,000 people annually and an upgraded runway to handle unrestricted operation of Airbus A320 or Boeing 737-800 aircraft.[201] The upgraded airport is an investment in economic development for the exclave of Oecussi, which is surrounded by Indonesia on land; the objective is to attract private investment and tourism.[202]

Figure 6 shows a map of the Timor-Leste Airport Network created by the WFP-led Logistics Cluster in 2019.[203]

Seaports

The Administration of Ports of Timor-Leste (APORTIL, I.P.) operates and maintains the public ports in the country. The National Directorate of Maritime Transport (DNTM) falls under MTC and oversees civil maritime administration for compliance with international maritime regulations and national maritime

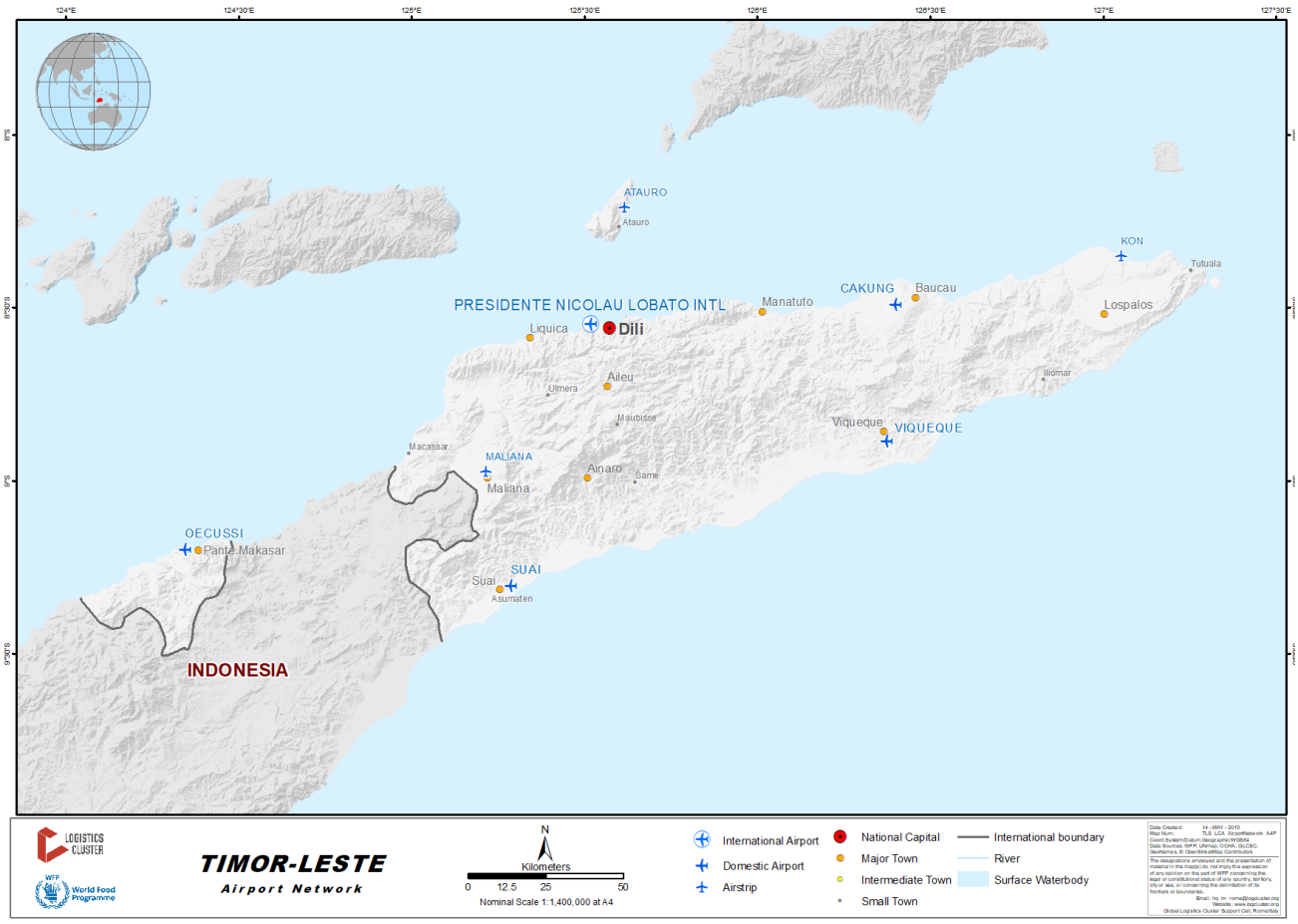


Figure 6: Timor-Leste Airport Network

sector obligations.

The Port of Dili and Tibar Bay Port are Timor-Leste's two major ports for conducting international maritime trade.[204] The recent opening of Tibar Bay Port relieved congestion at the Port of Dili.

Tibar Bay Port

Tibar Bay Port (UN/LOCODE: TLDIL, Terminal code: TBCT) opened in September 2022 as a modern, commercial port where nearly all imports enter and exports exit. The port is located 12 km (7.5 mi) west of the capital, and there is paved road access. Tibar Bay Port is operated by Timor Port (TPSA), the first public-private partnership in the country, on a contract that expires in 2048.[205] Since the Port's opening, all marine imports and exports have been routed through it, and this shift makes it the only port in the country with capacity to unload commercial shipping vessels.

The port has 630 m (2,067 ft) of quay divided into two berths with a 16-m (52-ft) draft. It can accommodate a 15,000-deadweight tonnage (DWT) general cargo vessel or a 10,000-twenty-food equivalent unit (TEU) container vessel. The warehouse capacity at the port is 1,500 m^2 (16,145 ft^2), and the stockyard spans 27 hectares (66.7 acres).

Tibar Bay Port handled 58,267 TEU of containerized cargo between October 2022 and July 2023.[206] During the first phase of operations, the port is expected to accommodate up to 200,000 TEU annually. When it becomes fully developed and operational, it will be the country's only logistics hub for maritime transportation and trade, with an annual capacity of 1 million TEU.

Port of Dili

The Port of Dili accommodates domestic passenger vessels and international cruise ships. It was formerly the only port in the country handling international trade; however, that position changed when container operations shifted to Tibar Bay Port in 2022. Ships need to self-load at Dili Port. The small, open harbor has a single quay that accommodates only two to three vessels at once. Approximately 200,000 tons of cargo and 20,000 TEU of containerized cargo are handled annually at Dili Port. While the harbor is surrounded by a natural reef, during the monsoon months (November-March), vessels are slightly exposed to northwesterly winds. Vessels should enter the port from 7:30am to 5:30pm; the risk of running aground on the rocky reefs is higher at night.[207]

Photo 2 shows the Port of Dili (Portu Dili). The port has limited accommodations and cargo support.[208]

Other Ports

Oecussi Port and Atauro Beloi Port are operational with regular traffic to and from Dili Port. This traffic includes the country's two domestic ferry routes, which serve the exclave of Oecussi and outer island of Atauro.[209]

Two additional piers operational in Dili are the privately-owned fuel jetties, Hera ETO and Pertamina, which are operated by the fuel companies Esperansa Timor Oan (ETO) and Pertamina International Timor, SA.



Photo 2: Dili Port

(PITSA), respectively. Hera Port (in Dili) is an inactive navy port. Three other ports with non-operational piers are Com Port (concrete pier in Lautém), Caravela Port (concrete pier in Baucau), and Suai Loro Port (dirt and gravel pier in Cova-Lima).

In June 2024, a report from the Japan International Cooperation Agency (JICA) about the "Project on Strategic Port Development Master Plan in Timor-Leste" identified 19 port locations targeted for development, and it particularly noted several as higher priority. The three highest-priority ports for development are Carabela, Beaço, and Suai (in Suai Supply Base). Two more high-priority development ports are Com and Betano. Additionally, Oecussi Port was proposed as an ancillary port development plan to handle international break bulk and enable domestic transport to regional ports. The remaining port locations targeted for development include Dili Port, Tibar Bay Port, Atauro Port, Baucau Port, Laga Port, Lore Port, Suai Loro Port, Manatuto area, Batugade area, Suai Port, Beaço Port, Hera ETO Jetty, Pertamina Jetty, Kaitehu Cement Jetty, and Lai Ara Jetty.[210]

The 2025 Logistics Capacity Assessment for Timor-Leste offers additional port details at: *https://lca.logcluster.org/timor-leste*

Roads

The road network has been significantly improved by paving in the last decade. Most of the network consists of dirt roads, which primarily comprise the secondary roads and even some stretches of national roads in rural areas, particularly on the south coast. Upgrading the road network is a high priority in the Timor-Leste Strategic Development Plan 2011-2030.[211]

The main road network consists of 20 national roads (A01-A19) that follow the coastlines and connect the southern and northern coasts at five stretches. Table 4 lists the national roads.[212]

Roads are often steep and winding throughout Timor-Leste's mountainous terrain.

National Road	From	To	Length
A01	Dili	Com, Lautém	203.9 km (126.7 mi)
A02	Dili	Suai	176.4 km (110 mi)
A03	Dili	Mota Ain	118.2 km (73.4 mi)
A03	Batugade	Maliana	42.4 km (26.3 mi)
A04	Tibar	Ermera	46.8 km (29.1 mi)
A05	Aitotu	Betano	55.6 km (34.5 mi)
A06	Baucau	Viqueque	64.9 km (40.3 mi)
A07	Viqueque	Natarbora	46 km (28.6 mi)
A08	Lautém	Viqueque	121.7 km (75.6 mi)
A09	Manatuto	Natarbora	79.5 km (49.4 mi)
A10	Ermera	Hauba	66.9 km (41.6 mi)
A11	Maliana	Ermera	64.7 km (40.2 mi)
A12	Zumalai	Maliana	52.5 km (32.6 mi)
A13	Cassa	Aiassa	25.1 km (15.6 mi)
A14	Betano	Natarbora	47.7 km (29.6 mi)
A15	Suai	Uemassa	27.5 km (17.1 mi)
A16	Aileu	Tilomar	33.4 km (20.8 mi)
A17	Pante Makasar	Oesilo	25.3 km (15.7 mi)
A18	Pante Makasar	Citrana	44.9 km (27.9 mi)
A19	Pante Makasar	Sacato	14.8 km (9.2 mi)
Suai Highway	Suai	Zumalai	33 km (20.5 mi)

Table 4: Timor-Leste National Roads

Paved roads are often interrupted by stretches of dirt due to landslides and flooding. During the wet season (November-April), floods and landslides cause damage to roads and bridges and render parts of the country inaccessible by road at those times. Even in Dili, the roads are prone to disruptions. Flooding in April 2021 resulted in landslides that blocked the road east out of Dili and collapsed the coastal road outside the Japanese Embassy.[213]

Vehicles drive on the left-hand side of the road. Speeds are generally slow due to poor road conditions. Threats to road security are low. There are issues with road safety; PNTL reported 2,218 road accidents that involved personal injury, and there were 117 fatalities in 2024. Axle load limits on trucks are not enforced in a structured manner, and commercial and private vehicles are commonly overloaded with passengers and goods. Government vehicles are exempt from axle load regulations. Weighbridges are present at Tibar Bay Port, and at the border crossings of Batugade, Sakato, and Salele. As of 2023, Indonesia started enforcing its maximum axle load limit of 10 tons, which is relevant for land transport to the exclave Oecussi via Indonesia.

Border crossings into Indonesia are at Batugade, Sakato, Salele, Bobometo, Tunubibi, Pasabe, and Citrana.[214]

In October 2025, the Asian Development Bank approved a US$4 million grant to improve road transport connectivity and boost resilience in Ermera, a remote and underserved region. The project will upgrade the road along the 11-km (7-mi) Ermera–Fatubessi corridor to connect rural communities to markets and essential services, as well as safeguard the infrastructure from climate risks.[215]

Railways

There are no railways in Timor-Leste, nor are there rail links to Timor-Leste.[216] In 2012, a master rail plan was proposed for 500 km (310 mi) of railway, but it was not implemented.[217]

Navigable Waterways

There are no navigable inland waterways in Timor-Leste.[218]

Communications

Development of the country's communications network is a part of the national strategic development plan. The installation of a high-speed internet cable from Australia in 2024 provided 4G and 5G mobile network coverage to some urban areas. An estimated 96% of the population are covered by 2G or 3G mobile networks, though with 61.7% of the population owning a mobile cellular telephone, there is still a gap to overcome to reach universal access.

TV and radio are the most accessed forms of mass media, and radio is more important in rural areas. Only 34% of individuals overall use the internet, and its reach in rural areas is very low.

Early warning information is disseminated to government stakeholders through SMS, email, and WhatsApp, and the CPA can deliver warnings and other hazard information via SMS to all users in a given area and to all followers of its recently created WhatsApp Channel.[219] One issue is that potential impacts cannot be specified at very local levels due to the lack of local weather stations and flood monitoring sensors.

Early Warning Systems and Information Sharing

There are three key national agencies that operate the early warning system (EWS) based on national laws and policies. They are the CPA under the Ministry of Interior, the Directorate of Meteorology and Geophysics (Diresaun Nasional Meteorolojia no Geofizika, DNMG) under the MTC, and the Agriculture and Land-Use Geographic Information System (ALGIS) under the Ministry of Agriculture and Fisheries (MAF).

The CPA's Civil Protection National Operational Commander is responsible for disseminating early warning advisories to the

public and all municipal-level civil protection agencies. It receives data and warnings from the DNMG through WhatsApp, email, and Facebook.[220] The Commander then disseminates early warning information to stakeholders across the government – national and municipal – and to its own staff through SMS, email, and WhatsApp.[221]

Based on agreements with major mobile telephone service providers, the CPA can deliver warnings and other hazard information via SMS to all users in a given area.[222] At the local level, CPA and NGOs may also use bulletins and megaphones to reach residents.[223] Figure 7 illustrates the flow of early warning information.[224]

The DNMG Director oversees separate Departments for Meteorology, Climatology, and Geophysics. The warnings section falls under the Chief of Meteorology, while the seismology and tsunami information section is under the Chief of Geophysics.[225]

DNMG generates weather forecasts using data collected from weather stations across the country and through collaborations with regional weather and forecasting agencies. Among its services, it pushes out hazard information and warnings to staff, offices, and the public. To expand public understanding of this information and its implications, DNMG delivers presentations and seminars to audiences spanning school students to national mass media, and it encourages these groups to share their knowledge with their communities.[226] For example, in August 2025, along with CVTL and IFRC, the DNMG delivered a 2-day training on EWS and anticipatory action in Oecussi, where participants built skills in forecasting, data collection, and community-based EWS.[227]

A key challenge is that DNMG lacks sufficient local weather stations and flood monitoring sensors, and this gap limits its ability to specify potential impacts at a granular level.[228]

A significant portion of the data and information that DNMG uses to deliver forecasts comes from international partners. DNMG receives flash flooding modelling

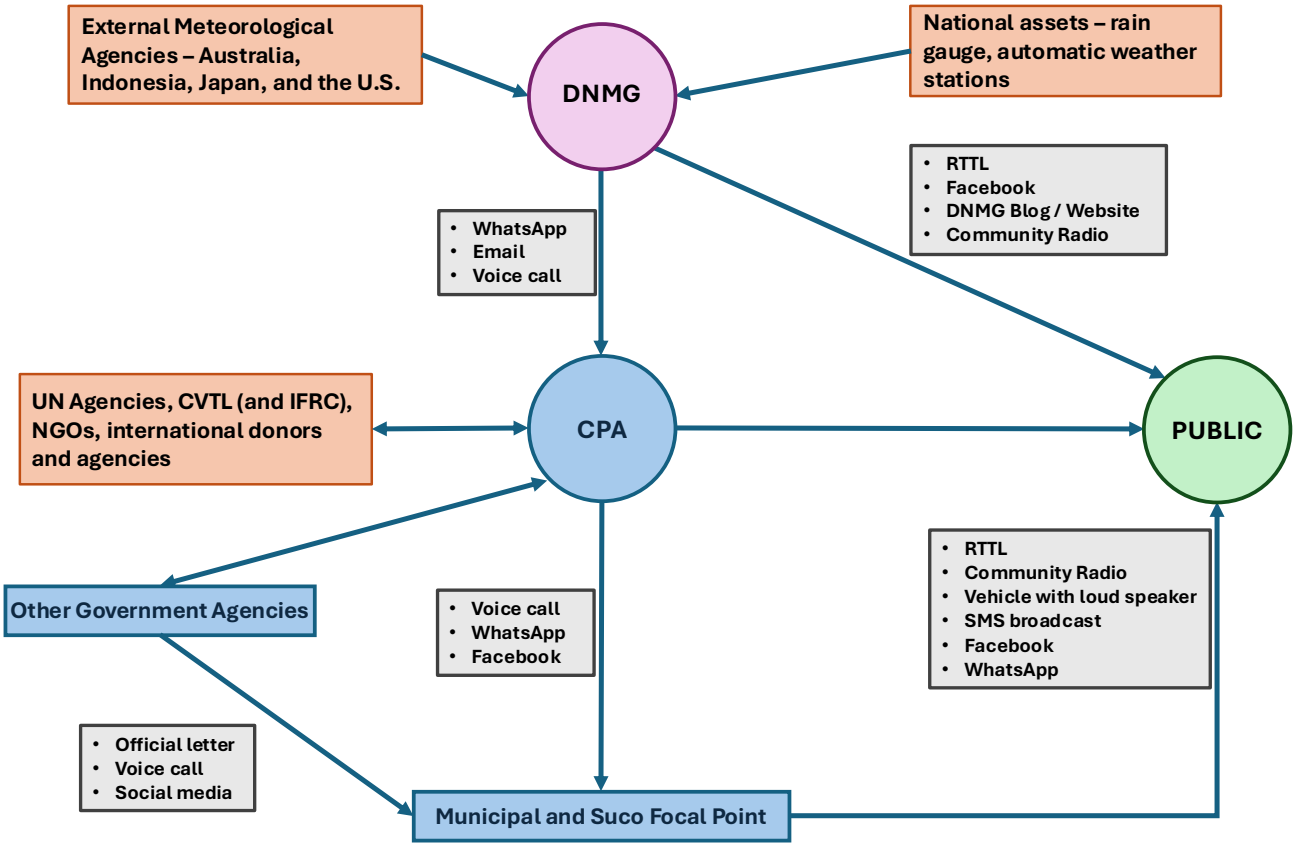


Figure 7: Scheme of Early Warning Information Flow

from the European Centre for Medium-Range Weather Forecasts, maritime forecasts and radar imagery from Indonesia, tropical cyclone advisories from Australia, and monthly and seasonal forecasts from the Regional Integrated Multi-Hazard Early Warning System (RIMES).[229] Hazard information centers in Australia, India, and Indonesia deliver tsunami and earthquake warnings and bulletins to Timor-Leste.[230]

While DNMG's systems focus on the greater Dili area, coverage is slowly expanding, with assistance from the UNDP and Green Climate Fund (GCF). By expanding the coverage of monitoring stations, DNMG will also be able to expand the EWS, not only for hydrometeorological phenomena but also for geophysical hazards.[231]

The RIMES for Africa and Asia shares important meteorological information with Timor-Leste.[232] As part of RIMES, the UN Environment Programme (UNEP) utilized GCF resources to implement the "Enhancing Early Warning System to Build Great Resilience to Hydrometeorological Hazard in Timor-Leste" project, which brought to DNMG computer servers for observation, collection, analysis, storage, and computation of weather and climate data, as well as upgrades to the Directorate's National Forecasting Centre. Additional elements were slated to deliver automated weather stations for DNMG to bolster coverage of all municipalities.[233]

Additional support from development partners and regional organizations has contributed to the build-out of some early warning infrastructure – e.g., communications equipment and information technology equipment and software. The Pacific Community conducted a capacity building program on tsunami preparedness that included the delivery of equipment and a tsunami siren to the country.

For its part, the MAF's ALGIS monitors and analyzes national and international agriculture-related risk information. It develops information systems on the national hazard risk atlas, provides early warning to farmers, and supplies information to the MAF DRM Task Force, the President of CPA, the Secretary of State for Civil Protection, the Ministry of Interior, and the National Council for Civil Protection to support informed decision-making.[234]

Meanwhile, the Timor-Leste Emergency Response System (TERS) is a digital platform for real-time data entry and monitoring. It not only allows responders to conduct detailed damage and loss assessments in the wake of a disaster, but it also allows agencies and communities to analyze hazard information, produce situation reports, and coordinate responses down to the municipal level. Municipal responders' use of the TERS platform allows them to ensure that national authorities have the latest information to ensure appropriate coordination.[235]

Finally, the Pacific Disaster Center (PDC) DisasterAWARE system was introduced in April 2023. It supports the country's decision-making for rapid-onset disasters based on the system's information layers and impact projections for hydrometeorological events.[236]

Information Sharing Focal Points

No single entity can have all of the information needed by stakeholders responding to an emergency. Sharing information among technical agencies, coordinating authorities, and implementing partners both in-country and among potential responders promotes timely, efficient, and effective delivery of disaster relief. The following are some focal points within Timor-Leste, in the wider region, and around the world that collect and share data and information regarding the hazards that impact Timorese communities.

National Offices

Civil Protection Authority (CPA / APC)
Tel: +670 7787 9422
Email: *grec@apc.gov.tl*
Web: *https://www.apc.gov.tl/*
TERS: *https://ters.apc.gov.tl/#/home*

Directorate of Meteorology and Geophysics (DNMG)
Avenida Francisco Xavier do Amiral, Dili
Tel: +670 7733 0799
Facebook: dnmg.timorleste
Instagram: dnmg-timor-leste

Timor-Leste Red Cross (CVTL)
P.O. Box 268, Dili
Tel: +670 78377717
Email: *info@redcross.tl*
Web: *https://www.redcross.tl/*
Facebook: redcrosstimorleste
X: cvtl_tl

International Agencies

UN in Timor-Leste
UN House
PO Box 008
Caicoli Street, Dili, Timor-Leste
Tel: +670 333 333
Web: *https://timorleste.un.org/en*
X: UNTimorLeste
Instagram: untimorleste

International Committee of the Red Cross (ICRC)
Rua 20 de Maio 79, Bairo Formosa, Grincenfor, Nain-Feto, Dili
Tel: +670 3310 452
Email: *dili.dil@icrc.org*
Web: *https://www.icrc.org/en/where-we-work/indonesia-and-timor-leste*
X: icrc_id
Instagram: icrc_indonesia

IFRC Country Cluster Delegation for Brunei, Indonesia, Singapore, Timor-Leste
Jalan Wijaya 1, 5th floor, Kebayoran Baru, Jakarta Selatan, Jakarta
Tel: +62 813 1288 9008

Telecommunications Infrastructure

The National Communications Authority (ANC) regulates telecommunications, radio-communications, broadcasting, and internet. The National Directorate of Information and Communication (DNIC) manages the terrestrial fiber optic networks that link government agencies. Humanitarian actors and government agencies in rural areas commonly use radio communication, and official vehicles are often equipped with radio equipment.

Mobile data services are predominantly provided by three companies - Telemor, Timor Telecom, and Telkomcel - which together provide at least 96% of the country with 2G or 3G coverage through their mobile infrastructure.[237] The mobile broadband market is still at an early stage of development, and strong growth is predicted over the next five years.[238] However, significant parts of Timor-Leste's rural areas have no telephone or network access. 4G is limited to the larger cities, and 5G coverage will be available in Dili in 2025 after installation of a high-speed internet cable from Australia. Internet speed varies, and network access is commonly impacted by heavy rains. Satellite-based internet services are provided by KACiFiC, NTvsat, and Asia Satellite, with Starlink starting to offer services in 2025.

The International Telecommunication Union (ITU) assessed Timor-Leste's universal connectivity score as 36.1/100 (where 0 is a total lack of consumer adoption and 100 means universal adoption), which is based on measurements such as:

- 34% of individuals use the internet
- 29% of people have a mobile broadband subscription

The ITU assessed the country's meaningful connectivity score as 49.3/100 (where 0 means no connectivity and 100 means connectivity for all), which is based on indicators such as:

- 96.5% of the population are covered by a 3G mobile network
- 45% of the population are covered by a 4G/LTE mobile network
- 61.7% of the population own a mobile cellular telephone
- Mobile data and voice high consumption basket (cheapest non-promotional option providing at least 140 minutes of voice, 70 SMS, and 2 gigabits (GB) of high-speed

data over a 30-day period) price is 15.1% of Gross National Income (GNI) per capita
- Fixed-broadband internet basket (cheapest plan providing at least 5 GB of monthly high-speed data) price is 29.9% of GNI per capita[239]

Aggregating the above statistics contributed to an information and communication technologies (ICT) development index score of 42.7/100 for Timor-Leste.[240]

In June 2023, the GoTL launched Timor Digital 2032, the ten-year strategic plan to advance ICT across critical sectors.[241] Key objectives include:

- E-Government implementation — Enhancing the delivery of government services through digital platforms to improve efficiency and accessibility.
- Inclusive economic growth — Leveraging digital technologies to foster an inclusive economy that benefits all citizens.
- Sectoral strengthening — Utilizing ICT to bolster the health, education, and agriculture sectors, thereby improving service delivery and outcomes.[242]

Mass and Social Media

TV and radio are the most accessed forms of mass media in the country, with TV accessed more in urban areas and radio in rural areas. While the Internet is a popular medium, its reach into rural areas is not reliable. There remain high levels of trust (56%) in news and information received from TV; in far second and third places in terms of trusted information sources were local, suco-level leaders (26%) and radio (7%).[243] Both modern mass media and other methods of informing the public are necessary when delivering risk information, hazard alerts, or instructions for accessing safe spaces or relief during and after a disaster.

Locally-produced media content is almost entirely in Tetum, but some community radio also broadcast in local languages. Surveys indicate that some 65% of the national audience views TV, while 32% have access only to radio. State-owned TV station, Radio Televisaun Timor-Leste (RTTL), is nationally available via terrestrial and satellite service. GMN-TV, a commercial outlet, is also available nationally via terrestrial and satellite services. A third station, TV Edukasaun (TVE) broadcasts terrestrially within Dili and online elsewhere.

There are an estimated 26 radio stations across the country. State-owned RTTL and commercially-run GMN Nacional FM are available nationally. Six commercial stations – Radio Liberdade, Radio Metro, Radio M3, Radio STL, Radio Timor Kmanek (of the Catholic Church), and Radio Vox – are based in and broadcast to Dili. Seventeen community radio stations outside Dili reach their respective regions.[244]

Print and on-line text media are available in Tetum, Portuguese, and English, but their readership is minimal outside Dili due to lower rates of literacy in rural areas, cost of newspapers, and a lack of distribution.[245] A 2023 survey of media professionals found that the most commonly used on-line media sources were the government news agency (Tatoli), Dili-Gente, Lafaek News, Neon Metin, Timor News, Naunil Media, Tempu Timor, and Oekusi Post.[246]

An estimated 50% of all 1.75 million mobile devices in the country have broadband connections, and mobile is the dominant means to access the Internet. Only about one-third of Timorese (approximately 486,000 people) use the Internet, and there are more than 589,000 social media profiles registered in the country, an indication that many users have profiles on more than one platform. Facebook is the dominant social media platform in the country and is used by an estimated 70% of Timorese adults. No other platform has more than 100,000 users.[247]

All of Timor-Leste's major mass media outlets maintain social media presences, and they engage actively with their audiences via these platforms.[248] These platforms may provide a space where mass media can deliver risk information and alerts to audiences not following traditional mass media.

Utilities

Public utilities play a major role in sustaining health, building industry, and expanding opportunity. Before, during, and after an emergency, robust electricity, water, and sewerage systems help ensure that households and businesses build coping capacity to allow them to resume lives and livelihoods swiftly. Nearly all Timorese households now have connections to the electric grid, yet supply remains centralized, diesel-dependent, and vulnerable because of single-circuit lines, coastal sites, and inefficient transmission. Water and sanitation coverage has expanded, but rural and institutional gaps persist, and weak monitoring leaves data gaps that obscure risk. Investments are underway to build redundancy, diversified generation, secure logistics, supply continuity, water quality surveillance, and backup power.

Power

Timor-Leste's electricity system is highly centralized and heavily dependent on imported fuel. Two large coastal plants – Hera near Dili and Betano on the south coast – supply the bulk of generation capacity, and there is a smaller facility in Oecussi and a unit on Atauro Island. As of February 2021, Electricidade de Timor-Leste (EDTL) reported a total installed thermal (diesel) capacity of 276 Megawatts (MW) from Hera (119.5 MW), Betano (136.6 MW), Inur Sakato (Oecussi, 17.3 MW), and Atauro (2.6 MW). Evening peak loads stood at 85 MW in March 2020.[249] While this surplus provides significant headroom, it also underscores reliance on imported fuel. Any disruption in global oil shipping, storage, or port-to-plant transport could rapidly affect generation. Import dependence, combined with the coastal location of the two largest plants, leaves the system exposed to both logistical and natural hazard risks.[250]

In the past decade, electricity access expanded under the National Electrification Program; the government reported 99.7% coverage by December 2024.[251] Transmission relies on a 150-kilovolt (kV) ring constructed in the early 2010s; it links nine substations located around the country.[252] The network is mostly single-circuit, with the exception of the double-circuit Dili–Hera–Manatuto segment, and this lack of redundancy leaves districts vulnerable to isolation if a single span fails due to storms, landslides, or fires.[253] EDTL notes the grid is largely radial with limited meshing, and the company highlighted the April 2021 storm/floods as evidence of weather exposure. Losses remain high across the transmission and distribution network. Asian Development Bank documentation finds that about 25–35% of energy entering the Low-Voltage [LV] network may be lost due to technical faults, and it warns that subsidies will have to keep rising unless technical/non-technical losses decline.[254]

Renewable energy development has gained policy traction, but progress on implementation remains slow.[255] Since 2021, several solar projects have been announced, including a flagship facility at Laleia in Manatuto.[256] In July 2025, EDTL signed a power purchase agreement with international partners for a 72-MW solar installation coupled with a 36-megawatt-hour (MWh) battery energy storage system (BESS).[257] If completed as planned, this project would mark the country's first large-scale renewable generation facility and could diversify supply modestly while reducing import dependence. However, as of mid-2025, EDTL has confirmed that national generation remains entirely fossil-fuel based, with over US$130 million spent annually on diesel imports.[258] Official commissioning dates do not appear to have been published for the solar project, and the operational status of earlier renewable initiatives remains uncertain.[259]

For DM, these characteristics have direct implications**.** Outages from plant or line failures could cut power to hospitals, communications systems, and emergency coordination centers during crises. Fuel supply disruptions following port damage or road closures could slow down recovery for weeks. High technical and non-technical losses reduce system margins, and the lack of up-to-date operational data constrains planners' ability to assess vulnerabilities. EDTL

also cautions that the grid's largely radial design limits alternative routing during contingencies. In short, Timor-Leste's grid, though extensive, remains fragile; disasters are likely to trigger cascading effects on emergency response and community resilience.

Water and Sanitation

Timor-Leste has made progress in expanding access to improved water and sanitation infrastructure over the past two decades, but coverage remains far from universal, especially in rural areas. As of 2020, 85% of the population had access to at least basic drinking water services, while only 57% had access to basic sanitation facilities. These figures reflect significant urban-rural disparities. In urban centers (e.g. Dili), over 95% of residents use improved water sources, and around 74% have basic sanitation. Meanwhile, about 80% of rural communities have basic water access, and only 49% have basic sanitation. The most recent nationally comparable data (through 2020) indicate that about 27% of rural households still practiced open defecation, while urban open defecation was essentially eliminated. As of mid-2025, no publicly validated national survey has superseded those figures, although local reports suggest that open defecation persists in some rural municipalities.[260]

The country does lack robust data on water quality and service continuity. So, its ability to report the share of the population with safely managed (clean and reliable) drinking water remains limited.[261] In other words, while most people can access an improved water source, it is unclear how many enjoy consistently safe and available water. This gap in monitoring highlights the need for stronger water quality surveillance.

Institutional water and sewerage infrastructure in Timor-Leste falls short of acceptable standards, particularly in rural areas. Healthcare and educational facilities often lack basic water, sanitation, and hygiene provisions. For example, UNICEF reports that roughly half of local health posts have no access to any water supply, and this gap impedes infection control and quality of care. Schools face sanitation deficiencies as well; about 40% of basic education schools (Grades 1–9) lack access to an improved water source, and although roughly 70% have toilets, many of these facilities are nonfunctional or only partially functional.[262]

Timor-Leste is highly vulnerable to natural hazards, particularly seasonal droughts and flash floods, which can quickly disrupt water services and trigger water-related health risks.[263] Prolonged dry seasons and El Niño-induced droughts often cause wells, springs, and small piped systems to run dry, and families are forced to rely on distant or unsafe sources.[264] At the other extreme, intense rainfall and flash floods have also damaged water infrastructure. In April 2021, flooding associated with TC Seroja destroyed more than 4,000 homes and contaminated water sources across all municipalities.[265]

Service interruptions heighten the risk of waterborne diseases such as diarrhea, cholera, and leptospirosis, as clean water becomes scarce and sanitation systems overflow. Diarrheal disease is already a persistent threat in Timor-Leste; in 2016, 11% of young children experienced diarrhea within a two-week survey period, and outbreaks can intensify sharply during droughts or floods.[266] Health officials caution that insufficient water quantity or quality during crises can quickly escalate into disease outbreaks, malnutrition, and other severe health impacts.[267]

Timor-Leste's water and sanitation sector has made gains in access, but coverage remains uneven, especially in rural areas, and many schools and health facilities still require upgrades to meet basic standards.[268] The government created Bee Timor-Leste Empressa Publica (BTL, E.P.) as the national water utility by Decree-Law No. 41/2020, to lead service delivery and sector reforms.[269] Partners like UNICEF and the World Bank are investing in more climate-resilient water systems and institution building.[270] Nonetheless, significant gaps remain, and more consistent monitoring of safely managed water and sanitation services is needed to guide future improvements.[271]

Health Systems

Timor-Leste is making steady progress toward achieving universal health coverage. The GoTL is committed to ensuring that all citizens have access to essential health services. This goal is being advanced through the Integrated Health Program, a national initiative aimed at strengthening the healthcare system. Key areas of focus include enhancing referral systems, expanding access to specialist services at the community level, and addressing the full continuum of care, ranging from health promotion and disease prevention to screening, diagnosis, treatment, and rehabilitation.[272]

Over the past decade, Timor-Leste has achieved notable improvements in public health outcomes. These achievements include being officially declared malaria-free by the WHO in July 2025,[273] and the country is implementing new technologies to improve tuberculosis (TB) detection.[274] Furthermore, mortality rates for children under 5 years of age, infants, and new mothers have been reduced by more than half. These gains reflect the GoTL's broader commitment to meeting the Sustainable Development Goals (SDG), with particular emphasis on SDG 3: "Good Health and Well-being."

Despite the progress made, persistent challenges remain in boosting immunization uptake and addressing TB, dengue, malnutrition, and noncommunicable diseases (NCD) – i.e., cardiovascular disease, cancer, diabetes, and chronic respiratory conditions.[275] Moreover, access to essential health services remains uneven, and overall utilization of healthcare services is relatively low. There are several contributing factors, but geographic and infrastructural barriers are among the most significant obstacles to access. A significant portion of the vulnerable population lives in rural and mountainous areas, where road conditions are poor and hinder access to timely and equitable care.[276]

The Ministry of Health (MoH) is the main government agency in charge of creating, carrying out, coordinating, and reviewing health and pharmaceutical policies. Its mission is to make sure that affordable health services are available to all people in Timor-Leste. It also regulates the health sector and encourages participation from communities, stakeholders, and other sectors.[277] The MoH includes the following departments:

- National Health Service Hospitals
- Autonomous Service of Medicines and Medical Equipment
- National Institute of Health
- National Health Laboratory
- National Ambulance and Medical Emergency Service (SNAEM, I.P.)[278]

Timor-Leste's national health system is structured as a decentralized, three-tier system centered around primary health care. It is largely publicly funded and managed by the MoH, which aims to provide free, quality health care to the population. The system is organized into three levels of care: 1) health posts and community health centers deliver primary care; 2) five referral hospitals in Baucau, Cova-Lima, Malina (Bobonaro), Maubisse (Ainaro), and Oecussi provide secondary care; and 3) one national hospital offers tertiary (specialized) care. At the municipality level, the health system operates in a hierarchical structure. Each municipality has a health office that supervises community health centers and health posts. In addition to government services, several NGOs deliver health services through specific programs that are often donor funded.[279]

Primary health infrastructure includes the one national referral hospital in Dili and the five referral hospitals, as well as 344 health posts (HP) and 71 community health centers (CHC). The six national hospitals have around 500 beds in total; about half of the beds are distributed among the five district hospitals, and 264 beds are in the Dili's Hospital Nacional Guido Valadares (HNGV). HNGV provides inpatient, outpatient and emergency services covering all major medical and surgical specialties. Specialized services are largely unavailable in the country due to lack of specialists and medical equipment; however, the country has agreements with neighboring countries such as

Australia, Singapore, Indonesia, and Malaysia for the transfer of patients for specialist care. There are relatively few private health care facilities, with only some 52 clinics and pharmacies (no hospitals) registered with the MoH, and most are in the capital.

HPs provide services at the suco level. They each cover a population of 1,500-2,000 in rural areas or about 5,000 in urban areas. CHCs provide ambulatory services to 7,000-12,000 in rural areas or about 15,000 in urban areas. Services are delivered by the Integrated Community Health System, Saude na Familia, and school-based health programs.

According to the most recent workforce figures available (2017), there were 889 general doctors, 35 medical specialists, and 1,267 nurses in the country. Including other healthcare workers – e.g., nurses' aides, midwives – the density of health care workers is 25 for every 10,000 people. A major healthcare workforce issue is the unequal distribution of workers and vacancies throughout the country. Around one-third of health workers work in Dili, and the vacancy rate in HPs and CHCs is 50.8%; 55% of HPs do not have a nurse.[280]

The GoTL has adopted the National Health Sector Strategic Plan (NHSSP) to work toward achieving universal health coverage. The goal is to improve the quality of health services and ensure they are accessible to all Timorese. The NHSSP focuses on delivering integrated health services, investing in health workers, improving infrastructure, and strengthening health system management and administration.[281] The NHSSP is in line with the National Strategic Development Plan 2011–2030, which set broader national goals, including ensuring that all citizens have access to health care and are protected from financial hardship due to medical costs. To support this objective, the government plans to rebuild health facilities, expand community-based services, increase the number of trained medical professionals, and introduce both a national health financing strategy and a family health service delivery model.[282]

WHO, in partnership with the MoH and other stakeholders, developed the Country Cooperation Strategy (CCS) for 2021–2025 to address the country's key health needs. This strategy aligns with the UN Sustainable Development Cooperation Framework (2021–2025) and supports both Timor-Leste's national health goals and global commitments, such as SDG 3. The CCS outlines four main priorities:

1. Timorese have access to equitable, high-quality, resilient, inclusive, and people centered universal health coverage
2. Timorese are better protected from health emergencies including disease outbreaks and disasters through strengthened national prevention, preparedness, and response capabilities
3. Timorese enjoy better health and well-being by addressing determinants of health through strong multisectoral action
4. The health systems are supported by strong and sustainable leadership and governance at every level towards the vision of "Healthy East Timorese in a healthy East Timor"[283]

Timor-Leste has also shown strong commitment to improving its ability to prepare for and respond to public health emergencies. In September 2024, in the weeks leading up to Pope Francis' visit to the country, WHO handed over to the MoH and HNGV a fully equipped Health Emergency Operations Center (HEOC), which was operationalized during the Pontiff's Mass.[284] This HEOC was the fifth of its kind in the country. Timor-Leste established the first national-level HEOC at the SNAEM, I.P. in 2020, and it was followed by three regional HEOCs in Oecussi, Ainaro, and Lautém in 2021, 2022, and 2023, respectively. The HEOCs function as command centers for the MoH, WHO, and other stakeholders for planning and coordination in response to public health emergencies and natural disasters.[285]

In 2023, the country launched the Advancing Surveillance and Training to Enhance Recognition of Infectious Diseases project, a national training program led by the NGO Maluk Timor. Funded by the Australian government, the project trained over 540 healthcare workers across 37 health facilities in

disease detection, management, prevention, and reporting.[286]

Further strengthening its public health capacity, in February 2025, Timor-Leste launched its first Field Epidemiology Training Program (FETP). On 6 June 2025, the first group of 40 health professionals graduated from the program, officially qualifying them to detect, investigate, and respond to emerging health threats. The FETP is led by the National Institute of Public Health and is supported by WHO Timor-Leste, the Korea International Cooperation Agency, and the Training Programs in Epidemiology and Public Health Interventions Network.[287]

To build a more skilled workforce, Timor-Leste has a medical cooperation program with Cuba. Through this program, Timorese students study medicine in Cuba and return to work in Timor-Leste's public healthcare system, particularly in rural areas. This program supports the government's broader goal of improving health outcomes nationwide. To retain doctors in rural posts, the government provides incentives such as financial support, professional development, and priority access to postgraduate education.[288]

Shelter and Housing

As the youngest country in Southeast Asia, Timor-Leste is committed to building its housing stock, though challenges remain. Many Timorese reside in substandard housing, and issues with land tenure and property disputes remain unresolved. The country is still in the early stages of implementing land laws, and there is no formal land or housing market. Banks do not offer residential mortgages, construction costs are high, and there are few private-sector developers.[289]

In urban areas, housing quality is gradually improving, with steadily more buildings being constructed from durable materials such as concrete, bricks, and tiles. In contrast, most homes in rural areas are still built using traditional materials like bamboo, wood, mud, palm leaves, thatch, and grass.[290]

To address these challenges, the Ministry of Planning and Strategic Investment, through its Integrated Planning Unit, is working with the World Bank Group to create a National Roadmap for Housing Market Development. This roadmap aims to guide the development of a functioning housing market aligned with urban planning priorities and focused on affordable and resilient housing.[291]

Housing and shelter policy is primarily overseen by the Ministry of Public Works, which is responsible for planning, implementing, and evaluating government policy in these areas. The Ministry of Social Solidarity and Inclusion also plays a key role, particularly in addressing the housing needs of vulnerable and marginalized communities.[292]

Efforts to improve emergency shelter coordination and sustainability have also been made. The Global Shelter Cluster and Camp Coordination and Camp Management Cluster Timor-Leste developed an Environmental Country Profile for Shelter Response in Timor-Leste. This profile guides environmentally responsible shelter planning by identifying key environmental concerns and opportunities to build resilient infrastructure. In 2023, a technical working group was established to strengthen shelter and settlement knowledge. Members include the GoTL, CVTL, CPA, Secretary of State for the Environment, and several international partners such as the Australian Red Cross, IFRC, IOM, Mercy Corps, Care International, and Oxfam.[293]

CVTL plays an active role in supporting shelter and household needs. It has procured family shelter kits and provides training in shelter management and community engagement. In February 2025, 25 staff and volunteers from CVTL branches in Baucau, Lautém, Manatuto, and Viqueque completed a 3-day emergency shelter training focused on improving the management of shelters to ensure the safety and dignity of displaced people during disasters and emergencies.[294]

To further build housing resilience in response to disasters, in collaboration with the Embassy of Japan, IOM handed over a refurbished evacuation center and essential

shelter repair kits to the CPA and local leaders in Suco Atudara, Bobonaro. This center will provide a safe space for families during emergencies.[295]

Food Security

In Timor-Leste, what people eat depends largely on where they live. In coastal and urban areas, rice is the main staple, while in inland and mountainous regions, corn (maize) is more common. Overall, limited agricultural diversity and traditional eating habits mean that most meals include corn, rice, noodles, some fish, along with meat, eggs, onions, tomatoes, and cassava. In rural areas, access to a variety of vegetables and fruits is limited, particularly between September and November, the latter part of the dry season.[296] Timorese also contend with the traditional lean season, which runs roughly from November to April and corresponds with the country's rainy season. During the lean season, cereal stocks run low, and Timorese depend on seed and food reserves, a strategy that puts the population at risk of further food insecurity.

The country's geography makes it highly vulnerable to natural hazards and extreme weather, especially those linked to ENSO. Changes in rainfall patterns and more intense rainfall threaten both agricultural output and water supply. Timor-Leste frequently experiences extreme weather events such as strong tropical winds, landslides, and flash floods. In September 2023, a severe El Niño event caused drought-like conditions and delayed rainfall, and this period was followed by flash floods in the planting season. The events disrupted crop production and made food more expensive and harder to access. In response, with support from the WFP, the GoTL provided emergency food aid to around 18,000 people.[297]

Timor-Leste's diverse landscape, made up of steep slopes and mountains, supports a wide range of crops. According to the 2019 Agriculture Census, roughly 509,226 hectares (1,258,325 acres) were used for farming.[298] Key crops include corn, rice, cassava, coffee, coconut, banana, mango, sweet potato, papaya, candlenut, and taro. Despite rice and maize being the country's main staples, there is a gap between production and consumption.[299]

A joint food system assessment by the FAO, WFP, European Union, and the French Agricultural Research Centre for International Development found that Timor-Leste is a food-deficit country, with agricultural and food production challenges. According to a July 2025 Integrated Food Security Phase Classification's Acute Food Insecurity Analysis, about 44% of the population is in a stressed food situation and at risk of falling into a full crisis. Recent global and national shocks – including the COVID-19 pandemic and TC Seroja – have worsened food insecurity and slowed progress toward achieving the SDGs by 2030.[300]

The MAF is responsible for the design, implementation, coordination, and evaluation of food security policy, as defined and approved by the Council of Ministers. These policies address the areas of agriculture, forests, fisheries, and livestock. MAF also drafts laws and regulations to protect these sectors.[301] The GoTL has outlined its food security priorities in several national plans. The Food System Pathway Commitment focuses on five key areas that need investment and improvement: food production, transport and storage, processing, distribution, and consumption.[302]

In addition to UN system agencies in Timor-Leste, various international organizations contribute to the country's food security; they include Catholic Relief Services, CARE, and the Church World Service (CWS).[303] Programs such as the Timor Zero Hunger program provided by CWS assist families and communities to diversify their diets through practicing agriculture and animal husbandry.[304]

CONCLUSION

In recent years, Timor-Leste has experienced major disasters – droughts, floods, and epidemics – that required a response by the national government and humanitarian community. The country's ability to detect, assess, respond to, and recover from these events has been put to the test, and future hydrometeorological, geophysical, and anthropogenic events are likely to demand well-resourced and coordinated responses.

A key touchstone for the development of DM policies, processes, and capacities was the devastation delivered by TC Seroja in 2021. The storm brought 24 hours of heavy rainfall, which drove landslides and severe flash flooding that affected at least 178,000 people and resulted in huge economic losses. Since then, the country has been working to prepare for similar, large-scale, cascading events, even as it works to address the more common, small-scale events that threaten communities on a more frequent basis.

The lead agency for DM since 2022, the CPA has been tasked with coordinating the national response to emergencies in addition to collaborating with local, national, and international stakeholders on DRR. The result has been that Dili, the CPA, and the F-FDTL have all enhanced their skills for responding to emergencies even as they have built capacities in mitigation and prevention through workshops, exercises, and networking with international partners. As Timor-Leste begins to integrate fully into the ASEAN DM structures, this international network will become even stronger and more important.

Among the critical activities for DM in the country are building community awareness of hazards and ensuring that people know how to respond to a disaster alert. With the CPA as the national lead, suco, post, and municipal authorities continue working to identify hazard exposure, build community-level coping capacity, and ensure the availability of resources in case a response is needed.

As part of the country's expansion of capacity to manage hazards and emergencies, the development of the EWS has become a key work stream. The DNMG, as the technical agency for various climatic and geophysical hazards, maintains strong partnerships with regional weather agencies and seismic monitoring bodies. Its ability to deliver clear, actionable bulletins and warnings to the operational commander and lower-level CPA offices will be critical to ensuring that communities understand the potential for hazard event impacts as well as what actions to take to mitigate risk. However, success in building out the EWS depends on addressing lingering shortfalls in communications infrastructure and risk assessments at the lower levels of communities.

Beyond the communications infrastructure to ensure hazard and early warning bulletins reach the populace, additional expansion of transport and health infrastructure will be critical components to ensure that rural communities can take action to address chronic challenges or emergent hazard events. International partners continue to finance and deliver technical assistance to the country as part of a strategy of expanding physical as well as informational access.

The CPA, F-FDTL, and PNTL continue to build familiarity with internal and international civil-military coordination for disaster response, but their ability to execute civil-military coordination tasks remains largely untested. The presence of the UN and AHP in the country likely will form the foundation for future international assistance missions, with UN or ASEAN methods for civil-military coordination likely to be influential. The U.S., Australia, and other regional states will contribute bilateral expertise and experience to share with CPA and F-FDTL and will help ensure that Timor-Leste is best poised to weather hydrometeorological and geophysical hazard events.

APPENDICES

Risk Indices

Risk calculation takes into account exposure to hazards, vulnerability, and coping capacity. Addressing all of these elements is important in reducing and mitigating disaster risk. Various indices emphasize structural or institutional risk while others emphasize hazards or losses (human and economic). Regardless of emphasis, disaster risk calculations use some form of the equation:

Disaster Risk = (Hazard × Vulnerability) / Capacity[305]

Taken from the UNDRR glossary, definitions will help clarify this formula:

- Capacity - The combination of strengths, attributes, and resources available within an organization, community, or society to manage and reduce disaster risks and strengthen resilience.
- Disaster risk - The potential loss of life, injury, or destroyed or damaged assets, which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability, and capacity.
- Hazard - A process, phenomenon, or human activity that may cause loss of life, injury, or other health impacts, property damage, social and economic disruption, or environmental degradation.
- Vulnerability - The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of an individual, a community, assets, or systems to the impacts of hazards.[306]

In general, the goal of indexing risk is to inform decision makers and DRR and climate adaptation practitioners of the level of risk to and underlying capacity of the target community. The various risk calculation models support proactive crisis management frameworks and are helpful for prioritizing allocation of resources and for coordinating actions focused on anticipating, mitigating, and preparing for humanitarian emergencies.

INFORM Risk Profile

INFORM is a collaboration of the Interagency Standing Committee (IASC) Reference Group on Risk, Early Warning, and Preparedness with the European Commission. It is a multi-stakeholder forum for developing shared, quantitative analysis relevant to humanitarian crises and disasters. The Joint Research Center of the European Commission is the scientific lead.[307]

The INFORM Risk Index is an open-source assessment that supports prevention, preparedness, and response decisions. It measures the risk of humanitarian crises and disasters in 191 countries. The INFORM model is based on the standard dimensions of risk: Hazards and Exposure, Vulnerability, and [Lack of] Coping Capacity. The first dimension measures the natural and human hazards that pose the risk. The second and third dimensions cover population factors that can mitigate against or exacerbate the risk. The Vulnerability dimension considers the strength of individuals and households relative to a crisis, and the Lack of Coping Capacity dimension considers factors related to [the absence of] institutional strength.[308]

The INFORM model is split into different levels to provide a quick overview of the underlying factors leading to humanitarian risk. INFORM gives each country a risk score of 1-10 (1 being the lowest and 10 the highest) for each of the dimensions, categories, and components of risk, as well as an overall risk score.[309] The higher the score the more at-risk a country is. In the 2025 INFORM Risk Index, Timor-Leste had an overall risk score of 3.8/10, which INFORM categorizes as the "Medium" risk class and lands Timor-Leste as the 86th most at-risk country in the Index. The

Hazards and Exposure dimension score takes into account a combination of both natural and anthropogenic hazards, and Timor-Leste rated 2.2/10 or 129th of 191 countries. The Vulnerability dimension score was 4.6/10 or 67th of 191 countries, and the Lack of Coping Capacity dimension score was 5.6/10 or 56th of 191 countries. Physical exposure to earthquakes at 5.7/10, and epidemics at 5.8/10 were the greatest threats in the Hazards and Exposure dimension. "Development and deprivation" measured 7.8/10, the highest indicator in the Vulnerability dimension. "Governance" rated 6.2/10 to be the most significant challenge in the Lack of Coping Capacity dimension. Figure 8 shows the INFORM Risk dashboard for Timor-Leste for 2025.[310]

U.S. Government Disaster Management Engagement

To build preparedness rather than simply react to large-scale events, U.S. government stakeholders undertake regular engagements for training, information sharing, and capacity strengthening. Among the key stakeholders in Timor-Leste are U.S. Indo-Pacific Command (USINDOPACOM) and its subordinate commands and units as well as the Rhode Island National Guard, who, under the State Partnership Program (SPP) of the U.S. National Guard, have cooperated with the CPA and other Timor-Leste stakeholders since 2020.[311]

When a disaster overwhelms the response capacity of an affected country and its international humanitarian partners, the U.S. Government may respond to a request for international assistance. The Chief of Mission (COM) of the U.S. diplomatic mission for the country can issue a Declaration of Humanitarian Need (DHN) that triggers assistance – in the form of funding, technical support, or relief items – via the U.S. State Department's Bureau of Population, Refugees, and Migration / Office of International Disaster Response (PRM/IDR), which replaced the U.S. Agency for International Development's Bureau for Humanitarian Assistance (USAID/BHA) in 2025. Additional support may be in the form of Urban Search and Rescue teams or experts to help manage a chemical, biological, radiological, nuclear, or explosive incident. If civilian capacity is insufficient to meet life-saving need, PRM/IDR may request U.S. Department of Defense (DoD) support via an intra-U.S. Government process.[312]

U.S. Country Team

The United States and Timor-Leste maintain strong relations as two democracies committed to advancing the rule of law, human rights, and inclusive development. Washington has been a significant bilateral donor and a leading contributor to multilateral partners, including the UN, Asian Development Bank, and World Bank, all of which are active in Timor-Leste. U.S. assistance has long focused on reinforcing good governance, fostering economic growth and job creation, improving health outcomes, and professionalizing Timor-Leste's security forces.[313]

The U.S. Country Team, led by the COM, coordinates diplomatic engagement, consular services, public diplomacy, and interagency programs to advance these priorities.[314] Defense and security cooperation is managed primarily by the U.S. DoD and USINDOPACOM. Through International Military Education and Training (IMET), multilateral exercises such as Cooperation Afloat Readiness and Training (CARAT), and infrastructure projects like the Baucau airfield upgrades, U.S. forces have supported the development of the F-FDTL.

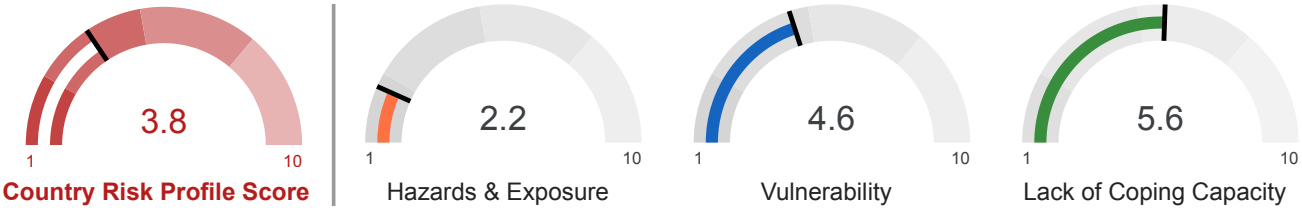


Figure 8: INFORM Dashboard, Timor-Leste (2025)

These efforts are reinforced by the Timor-Leste - Rhode Island National Guard SPP, established in 2020 and formalized in 2023; this partnership has facilitated joint training, technical exchanges, and construction of disaster-response infrastructure, including a humanitarian warehouse and aircraft hangar in Baucau.[315]

The U.S. is assisting Timor-Leste with a US$3.4 million planned National Emergency Communications Network project aiming to support disaster and emergency response capability in the country. The need to develop this communications capacity was identified by the U.S. Army Pacific's Oceania Engagement Team – 9th Mission Support Command in collaboration with the U.S. Embassy Regional Security Office, and the Office of Defense Cooperation. The project focuses on the country's communications systems and network, and a planned EOC upgrade for the Ministry of the Interior and the CPA. It will include radios, radio tower equipment and installation, national emergency calls and operations center equipment, and training. The project also aims to increase interoperability with the U.S. and partner nations in the region. The planned project is expected to be completed in June 2026.[316]

The U.S. Country Team also supports preparedness through engagements bringing together U.S. and Timorese military forces. These activities reflect broader U.S. objectives in Timor-Leste: strengthening democratic governance and rule of law, expanding economic opportunities, enhancing public health and resilience to shocks, disaster resilience, regional stability, and building defense and civil protection capacity.[317]

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Responses in the Past Five Years (2020-2025)

The U.S. has conducted only limited disaster response missions in Timor-Leste.

Flash Floods (TC Seroja) – April 2021

In early April 2021, rains associated with TC Seroja triggered severe flooding and landslides across all municipalities of Timor-Leste; Dili was the hardest hit. Authorities and UN reports recorded the opening of 43 evacuation facilities, but an estimated 42-46 people were killed, and there were large-scale displacement and damage to homes and infrastructure.[318] The United States supported a targeted, small-scale response by delivering US$100,000 in immediate humanitarian funding, implemented through IOM and the CPA. This funding was followed by an additional US$900,000 for early recovery, implemented by World Vision. The U.S. Navy's Naval Mobile Construction Battalion ("Seabees") were already in the country working on a project and provided immediate support to the CPA and CVTL. They aided evacuees by providing cots at an evacuation site. USAID funded IOM to distribute shelter repair kits in hard-hit neighborhoods.[319]

COVID-19 Support - 2020–2022

U.S. assistance during the pandemic was led by USAID and supported by the DoD. In September 2021, the U.S. provided US$2.3 million for health security, including facility upgrades, isolation centers, and a mobile intensive care unit in Dili. The funding was provided from the U.S. Mission in Timor-Leste, through USAID and USINDOPACOM, with collaboration from the Peace Corps.[320] USAID followed with grants to UNICEF that totaled over US$2.4 million between December 2021 and July 2022, and this funding supported acquisition of personal protective equipment, oxygen supplies, vaccination campaigns, and WASH improvements.[321] In parallel, U.S. Pacific Air Forces transported medical cargo, including shipments from Yokota Air Base, Japan, in late 2021 and additional supplies delivered to the MoH in early 2022.[322]

DoD DMHA Engagements

Preventive and capacity-building activities such as Pacific Partnership deployments (2006, 2010, 2016, 2019), Pacific Angel humanitarian missions (2018, 2022), and continuous naval construction projects since 2009 are highlights of U.S. DoD DM engagement in Timor-Leste. Aligned with the COM's priorities, USINDOPACOM, U.S. service components, and the Rhode Island National Guard run recurring engagements with the F-FDTL and civilian partners. Recent additions to this slate include the Dalan ba Dame series in Baucau (2021, 2022, 2024), CARAT/MAREX 2023 in Dili, and the joint Baucau Airfield rehabilitation, launched in January 2022 and followed by a Cessna 206 handover in June 2023 to extend surveillance and disaster-response reach. Planning and senior-level coordination also deepened via a National Guard Bureau visit with ribbon-cuttings for a humanitarian supply warehouse and aircraft hangar in Baucau (April 2025), and Bilateral Defense Discussions in Honolulu (July 2025).

The following list briefly describes the DM-focused engagements that the U.S. DoD has had with Timor-Leste in the last five years.

Disaster Response Workshop – September 2025

A 3-day Disaster Response Workshop and Table-Top Exercise brought together 50 participants from across Timor-Leste's DM agencies and organizations. Held 10-12 September 2025 in Dili, the workshop was led by CFE-DM, with the support of the Rhode Island National Guard, the Australian Civil-Military Centre, and U.S. Army Pacific's Oceania Engagement Team. The objective was to strengthen preparedness by testing coordination, communication, and decision-making across government, security, and humanitarian actors. The practical exercise portion of the workshop allowed participants to practice planning for disaster responses.[323]

Bilateral Defense Discussions – July 2025

In July 2025, the U.S. DoD hosted bilateral defense discussions with Timor-Leste at USINDOPACOM headquarters. The discussions focused on expanding cooperation in areas directly tied to DM. The talks emphasized joint training, maritime security, and coordination, and they underscored the growing partnership between the two countries and their shared commitment to strengthening regional resilience and stability in the Indo-Pacific.[324]

National Guard Bureau Chief Visit – April 2025

In April 2025, the Chief of the National Guard Bureau visited Timor-Leste to reaffirm the Rhode Island National Guard's SPP ties. The visit featured senior-level meetings on defense cooperation and disaster response capacity, and it included the ribbon-cutting for a new humanitarian aid warehouse and aircraft hangar in Baucau. Since the partnership's formal launch in 2023, more than 30 exchanges have strengthened Timor-Leste's defense capabilities and reinforced U.S. support for regional resilience.[325]

Exercise Dalan ba Dame – 2021-2024

The first iteration of the Exercise Dalan ba Dame series was conducted in July and August 2021, and the most recent, the fourth iteration, took place in June 2024. The series is intended to focus on partnership, readiness, and practical skills relevant to disaster response.[326] Hosted by the F-FDTL's Land Component in Baucau, the Exercise represents expanded bilateral training that underpins domestic response capacity and interoperability.[327] Activities during each iteration have included medical care, land navigation, small-unit tactics, engineering, and joint construction projects, all of which deepen practical skills and U.S.–F-FDTL engineer cooperation.[328] Concluding in Baucau on 26 June 2024, the fourth iteration of Dalan Ba Dame delivered a new 100-m (328-ft) weapons range, and participants renovated Baucau's Bela Vista School. The exercise also increased the knowledge of over 60 subject matter experts.[329]

CARAT – 2021 and 2023

In the past five years, Timor-Leste has

hosted two iterations of CARAT. The six-day drill in 2023 brought together U.S. forces, the F-FDTL, and PNTL for training at sea and ashore. Activities under CARAT events include navigation, engineering, combat lifesaving, helicopter operations, visit-board-search-seizure, and humanitarian assistance and disaster response. The exercises also feature maritime domain awareness and salvage exchanges to strengthen interoperability and enhance Timor-Leste's capacity to respond to both security and disaster challenges.[330] CARAT exercises underscore participating nations' commitment to safeguarding shared waters and advancing a free and open Indo-Pacific.[331]

Seabees' Construction Projects – 2021-2022

By December 2022, Seabees had completed more than 100 construction projects in Timor-Leste, where their continual presence began in 2009. In late 2022, Seabees and Marines, working with F-FDTL engineers, completed a three-classroom primary school in Baucau; the facility was designed to serve about 90 students.[332] This delivery followed the May 2022 inauguration of a two-room preschool in Maubara, Liquiçá, where it delivered expanded early-learning capacity for local children.[333] In Baucau in 2021, Seabees, F-FDTL, and Australia's 1st Combat Engineer Regiment, built a four-room classroom block at Escola Secundária Geral No. 2,[334] while Seabees and local partners also completed a three-classroom facility at Ensino Básico Central Seical.[335] Earlier in 2021, the U.S. Army's Task Force Oceania's Team Timor-Leste and Seabees had conducted on-site surveys at hospitals and schools.[336]

Pacific Angel 22-4 – September 2022

During Pacific Angel 22-4, held 12-17 September 2022 in Baucau, over 90 U.S. service members teamed up with the F-FDTL, local government, and NGOs to provide a range of humanitarian assistance. The operation included health services such as general medicine, pediatrics, optometry, dental care, physical therapy, immunizations, and pharmacy support, benefiting over 3,600 patients. U.S. engineers worked on renovating schools by repairing ceilings, roofs, electrical systems, and plumbing, work that directly helped over 1,000 pupils from the schools. The mission not only addressed immediate needs but also strengthened the long-term partnership between the U.S. and Timor-Leste by fostering collaboration and building personal relationships, demonstrating shared humanitarian goals, and enhancing regional interoperability.[337]

Joint Rehabilitation of Baucau Airfield – January 2022

In June 2021, the U.S. committed over US$10 million to jointly rehabilitate the Baucau Airfield with the GoTL. On 12 January 2022, U.S. Air Force engineers launched work in partnership with the F-FDTL to support construction and repair projects as part of the program. These projects laid the groundwork for the arrival of a U.S.-provided Cessna 206 later in 2023. Through the creation of an F-FDTL Air Component, the project will assist the F-FDTL and help the Timorese government improve its maritime awareness, respond to natural disasters, and promote economic development.[338]

U.S. Navy-Supported KADABUNAK Health Clinic Refurbishment – May 2021

The U.S. Ambassador to Timor-Leste joined the Minister of Health, Dili Municipality President, and Chief Matos da Costa Suku Camea at a ribbon-cutting ceremony on 21 May 2021 to inaugurate the refurbished KADABUNAK Health Clinic located in Cristo Rei, Dili. The refurbishment was made possible through funding from the U.S. Navy. The upgrades, valued at US$152,839, benefited over 5,000 residents across five villages.[339]

Additional Resources

This appendix provides additional references, with links, to enable readers to find relevant and contextual information.

International and U.S. Government Sources
U.S. Embassy in Timor Leste *https://tl.usembassy.gov/*
CIA World Factbook – Timor-Leste *https://www.cia.gov/the-world-factbook/countries/timor-leste/*
International Travel Information U.S. State Department *https://travel.state.gov/content/travel/en/international-travel/International-Travel-Country-Information-Pages/Timor-Leste.html*
Travelers' Health Centers for Disease Control and Prevention *https://wwwnc.cdc.gov/travel/destinations/traveler/none/east-timor?s_cid=ncezid-dgmq-travel-single-001*
United Nations Timor-Leste Annual Report 2024 United Nations in Timor-Leste *https://reliefweb.int/report/timor-leste/united-nations-timor-leste-annual-report-2024*
Climate Risk Country Profile: Timor-Leste (2021) World Bank Group and Asian Development Bank *https://www.adb.org/sites/default/files/publication/751241/climate-risk-country-profile-timor-leste.pdf*
Beyond Barriers: Timor-Leste Case Study (2021) Humanitarian Advisory Group *https://humanitarianadvisorygroup.org/insight/beyond-barriers-timor-leste-case-study/*

National Disaster Risk Reduction/Management
Government of Timor-Leste *https://timor-leste.gov.tl/?lang=en*
National Report on the Midterm Review of the Sendai Framework for Disaster Risk Reduction 2015-2030: Timor-Leste UNDRR and the Timor-Leste Government *https://sendaiframework-mtr.undrr.org/publication/national-report-midterm-review-sendai-framework-disaster-risk-reduction-2015-2030-timor*
Timor-Leste Anticipatory Action Road Map 2025–2029 Government of Timor-Leste, Food and Agriculture Organization, UN Environment Programme *https://reliefweb.int/report/timor-leste/timor-leste-anticipatory-action-road-map-2025-2029*

Regional Resources

ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre)
Association of Southeast Asian Nations (ASEAN)
https://ahacentre.org/

Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations (SASOP), Version 3.0
Association of Southeast Asian Nations (ASEAN)
https://ahacentre.org/publication/sasop-v3/
SOP for ASEAN (of which Thailand is a member-state) disaster standby arrangements and joint ASEAN disaster relief procedures.

Asia-Pacific Regional Guidelines for the Use of Foreign Military Assets in Natural Disaster Response Operations ("APC-MADRO Guidelines")
The Asia-Pacific Conferences on Military Assistance to Disaster Relief Operations (APC-MADRO) & OCHA
https://www.unocha.org/publications/report/world/asia-pacific-regional-guidelines-use-foreign-military-assets-natural-disaster-response
Reference guide for states planning and executing foreign military support for regional disaster response.

Multinational Force Standing Operating Procedures (MNF SOP) – Annex C: Humanitarian Assistance/ Disaster Relief
Multinational Planning Augmentation Team (MPAT), U.S. Indo-Pacific Command
https://www.pacom.mil/Portals/55/Documents/J7/MNF%20SOP%20Ver%203.4_14%20FEB%2025_vbf.pdf?ver=4LVTNxMJB8_1xpfxYdARrg%3d%3d (Part D, Chapter 1, Annex C; pg. 883)
Annex on international humanitarian assistance; part of broad standing procedures for regional multinational force operations other than war.

USINDOPACOM Foreign Disaster Response in the Indo-Asia-Pacific April 1991 – January 2024
CFE-DM, U.S. Pacific Command.
https://www.cfe-dmha.org/Publications/New-Releases
Contemporary historical synopsis of foreign disasters the U.S. DoD responded to in the Indo-Pacific.

U.S. DoD Training

Humanitarian Assistance Response Training – Disasters (HART-D) Course
CFE-DM, U.S. Pacific Command
https://www.cfe-dmha.org/hart-d
Target Audience: O3-O6, E6-E9, and DoD civilians who may plan for or execute a Foreign Disaster Relief mission or participate in disaster response activities in exercises or security cooperation engagements.

Acronyms and Abbreviations

°	degree(s) - of temperature (Celsius [C} or Fahrenheit [F]), slope, or of latitude and longitude (North [N], South [S], East [E], and West [W])
$	dollar(s) - of the U.S.
AACTL	Civil Aviation Authority of Timor-Leste
AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ACDM	ASEAN Committee on Disaster Management
ACMC	Australian Civil-Military Centre
ADF	Australian Defence Forces
AHA Centre	ASEAN Coordinating Centre for Humanitarian Assistance on disaster management
AHP	Australian Humanitarian Partnership
ALGIS	Agriculture and Land-Use Geographic Information System
AMS	ASEAN member-state
ANC	National Communications Authority
APORTIL	Administration of Ports of Timor-Leste
ASEAN	Association of Southeast Asian Nations
BESS	battery energy storage system
CARAT	Cooperation Afloat Readiness and Training
CCS	Country Cooperation Strategy
CDMC	community disaster management committee
CFE-DM	Center for Excellence in Disaster Management and Humanitarian Assistance
CHIKV	Chikungunya virus
COM	Chief of Mission
COVID-19	Coronavirus Disease 2019
CPA	Civil Protection Authority
CRED	Centre for Research on Epidemiology of Disasters
CVTL	Timor-Leste Red Cross (Cruz Vermelha de Timor-Leste)
DCP	Defence Cooperation Program
DELSA	Disaster Emergency Logistics System for ASEAN
DHN	Declaration of Humanitarian Need
DM	disaster management
DMHA	Disaster Management and Humanitarian Assistance
DNB	National Fire Brigade
DNER	National Emergency and Response Department
DNGR	National Resource Management Department
DNGRD	National Disaster Risk Management Directorate
DNIC	National Directorate of Information and Communication
DNMG	Directorate of Meteorology and Geophysics
DNPM	Directorate of National Prevention and Mitigation

DNR	Directorate of National Recovery
DNTM	National Directorate of Maritime Transport
DRM	disaster risk management
DRR	disaster risk reduction
EDTL	Electricidade de Timor-Leste
EEZ	Exclusive Economic Zone
EM-DAT	international disaster database (of CRED)
ENSO	El Niño Southern Oscillation
EOC	Emergency Operations Center
ERAT	Emergency Response and Assessment Team (of ASEAN)
EWS	early warning system
F-FDTL	Timor-Leste Defense Force (Falintil-Forcas de Defesa de Timor-Leste)
FAO	Food and Agriculture Organization
FBPP	Field Based Preparedness Project
FETP	Field Epidemiology Training Program
ft / ft^2	foot / feet / square foot / square feet
GCF	Green Climate Fund
GDP	gross domestic product
GNI	gross national income
GoTL	Government of Timor-Leste
HADR	humanitarian assistance and disaster response
HCT	Humanitarian Country Team
HEOC	Health Emergency Operations Center
HNGV	Guido Valadares National Hospital
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICRC	International Committee of the Red Cross
ICS	Incident Command System
ICT	information and communication technologies
IFRC	International Federation of Red Cross and Red Crescent Societies
in	inch(es)
IOM	International Organization for Migration
ITU	International Telecommunication Union
JICA	Japan International Cooperation Agency
JOCCA	Joint Operations and Coordination Centre of ASEAN
km / km^2	kilometer(s) / square kilometer(s)
LTWG	Logistics Technical Working Group
m / m^2	meter(s) / square meter(s)

MAF	Ministry of Agriculture and Fisheries
MDMC	Municipal Disaster Management Committee
mi / mi^2	mile(s) / square mile(s)
MILREP	military representative
mm	millimeter(s)
MoH	Ministry of Health
MTC	Ministry of Transport and Communication
MW	Megawatt(s)
MWh	Megawatt-hour(s)
NCD	noncommunicable disease
NCPEP	National Civil Protection Emergency Plan
NDMO	national disaster management organization
NGO	non-governmental organization
NHSSP	National Health Sector Strategic Plan
OCHA	Office for the Coordination of Humanitarian Affairs (of the UN)
OPD	organization of people with disabilities
OSOCC	On-Site Operations Coordination Center
PDC	Pacific Disaster Center
PDMC	Post Disaster Management Committee
PNTL	Polícia Nacional de Timor-Leste
PRC	People's Republic of China
PRM (/ IDR)	Bureau of Population, Refugees, and Migration (/ Office of International Disaster Response) (of the U.S. State Department)
RCG	Regional Consultative Group on Humanitarian Civil-Military Coordination for Asia and the Pacific
RCO	Resident Coordinator's Office (of the UN)
RHTO	Ra'es Hadomi Timor Oan
RIMES	Regional Integrated Multi-Hazard Early Warning System
RTTL	Radio Televisaun Timor-Leste
SASOP	Standard Operating Procedure for Regional Standby Arrangements and Coordination of Joint Disaster Relief and Emergency Response Operations
SDG	Sustainable Development Goal
SDMC	Suco Disaster Management Committee
SG-AHAC	Secretary-General, acting as the ASEAN Humanitarian Assistance Coordinator
SimEX	Simulation Exercise
SIOPS	Integrated Protection and Relief Operations System
SNAEM	National Ambulance and Medical Emergency Service
SPP	State Partnership Program (of the U.S. National Guard)
TB	tuberculosis
TC	tropical cyclone

TERS	Timor-Leste Emergency Response System
TEU	Twenty-Foot Equivalent Unit
ToR	Terms of Reference
U.S.	United States
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNDRR	United Nations Office for Disaster Risk Reduction
UNEP	United Nations Environment Programme
UNHRD	United Nations Humanitarian Response Depot
UNICEF	United Nations Children's Fund
USAID (/ BHA)	United States Agency for International Development (/ Bureau for Humanitarian Affairs) (now PRM / IDR)
USINDOPACOM	United States Indo-Pacific Command
WASH	water-sanitation-hygiene
WFP	World Food Programme
WHO	World Health Organization
WMP	World Mosquito Program

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