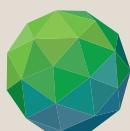




Timor-Leste Anticipatory Action

Road Map 2025–2029



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Timor-Leste Anticipatory Action

Road Map 2025–2029

Civil Protection Authority
Dili, 2025

Required citation:

CPA. 2025. *Timor-Leste Anticipatory Action Road Map 2025–2029*, Dili.



Contents

Acronyms	iv
Foreword	v
Executive summary	vii
1. Introduction	1
2. Methodology	3
3. Ownership	3
4. Definitions	4
5. Anticipatory Action in Timor-Leste	5
5.1 Relevance	5
5.2 Potentials and limitations	5
5.3 Alignment with ASEAN	6
5.4 Alignment with the government	6
5.5 Gender mainstreaming	6
5.6 Forecasting and risk information	7
5.7 Funding	7
5.8 Stakeholders	8
6. Timor-Leste Vision for Anticipatory Action 2025–29	10
7. Plan of action	12

Acronyms

AATWG	Anticipatory Action Technical Working Group
AHP	Australian Humanitarian Partnership
ALGIS	Agricultural and Land-use Geographics Information System
APC	Civil Protection Authority (Autoridade de Proteção Civil)
ASEAN	Association of Southeast Asian Nations
CERF	Central Emergency Response Fund
CNOPC	Civil Protection National Operational Command
CPA	Civil Protection Authority (Autoridade de Proteção Civil)
CVTL	Cruz Vermelha de Timor-Leste
DNGRA	Direção Nacional de Gestão dos Recursos Aquático
DNMG	National Directorate for Meteorology and Geophysics (Diresaun Nasional Meteorolojia no Geofízika)
EDTL-EP	Eletricidade de Timor-Leste-Empreza Publico
EWS	Early Warning System
FAO	Food and Agriculture Organization of the United Nations
GCF	Green Climate Fund
IFRC	International Federation of Red Cross and Red Crescent Societies
IFRC-DREF	IFRC Disaster Response Emergency Fund
IGTL	Instituto de Geociencia de Timor-Leste
MALFF	Ministry of Agriculture, Livestock, Fisheries and Forestry
MoE	Ministry of Education
MoF	Ministry of Finance
MoFA	Ministry of Foreign Affairs
MoI	Ministry of Interior
MoPW	Ministry of Public Works
MSA	Ministry of State Administration
MSSI	Ministry of Social Solidarity and Inclusion
MTC	Ministry of Transportation and Communication
MTCI	Ministry of Trade Commerce and Industry
MTE	Ministry of Tourism and Environment
NDA	National Designated Authority
PBTL-EP	Bee Timor-Leste (Empresa Pública)
PDN	Plano Desenvolvimento Nacional
RIMES	Regional Integrated Multi-Hazards Early Warning System
SMART	Specific, measurable, achievable, relevant, and time-bound
TIC	Technology Information and Communication
TWG	Technical Working Group
UPMA	Unidade Planeamentu Monitoramentu no Avaliasaun
VPMSA	Vice Prime Minister for Social Affairs
WFP	World Food Programme



Foreword

Natural hazards such as floods and droughts impact the lives and livelihoods of the people of Timor-Leste. These hazards are forecast to become more frequent and intense in the future. Anticipatory Action is an approach to disaster management that can strengthen Timor-Leste's preparedness for and resilience to these disasters.

Anticipating a disaster and equipping communities with what they need to get through it preserves their dignity. By protecting families' health, sources of food and income throughout a crisis, anticipatory actions help to preserve the progress communities have already made, from better nutrition to education, and make them more resilient to future shocks.

The Civil Protection Authority is pleased to see the development of this Anticipatory Action road map for Timor-Leste. It provides a clear pathway toward mainstreaming the Anticipatory Action approach in the country and reaping the benefits for its people. To achieve these outcomes, the disaster management community in Timor-Leste, through the Anticipatory Action Technical Working Group, must deliver progress in several key areas.

A shared vision, terminology and plan are all essential for the success of coordinated and participatory Anticipatory Action in Timor-Leste. This road map outlines the alignment achieved on these topics among actors, as well as key actions and expected results to be achieved in the next five years under the guidance of the government, across enhanced risk analytics, planning, operations and delivery of anticipatory actions, pre-arranged financing, evidence and learning, policy, institutionalization, and coordination.

The development of this roadmap has benefited from the valuable technical and financial support of multiple partners. I would like to extend my sincere appreciation to the Green Climate Fund (GCF) for its financial support, and to the Food and Agriculture Organization (FAO) and the Red Cross Red Crescent Climate Centre (RCCC) for their technical contributions throughout the formulation process. I also wish to thank the Technical Working Group on Anticipatory Action for their constructive reviews and discussions, which helped to strengthen the document. I look forward to continued collaboration with all partners as we move into the implementation phase.

Jesuino dos Reis de M. Carvalho
President, Civil Protection Authority
Chair of Timor-Leste's Anticipatory Action Technical Working Group





Executive summary

The Timor-Leste Anticipatory Action road map serves as a comprehensive and unifying blueprint for government ministries and partners, aimed at collectively expanding and integrating Anticipatory Action strategies over the next five years. This road map establishes a common definition at the national level, assesses the existing plan's status, and lays out the detailed plan of action spanning 2025 to 2029.

The primary objective of this road map is to facilitate the seamless integration of Anticipatory Action within Timor-Leste's current disaster risk management framework, achieved through collaborative efforts among various agencies. Moreover, it aspires to make meaningful contributions to the *ASEAN Framework on Anticipatory Action in Disaster Management*, showcasing progress towards fulfilling this commitment at the national level. The road map also contributes to the 2023–2027 regional road map of the Asia-Pacific Technical Working Group on Anticipatory Action.

Through this strategic and cohesive road map, Timor-Leste endeavours to fortify its disaster risk management mechanisms, enhance resilience, and collectively work towards building a more proactive way to manage disasters in the country.



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1. Introduction

Timor-Leste's geographical location and topography expose the country to a range of climate-related natural hazards, including floods, storms, typhoons, droughts, and extreme heat. Among these risks, flooding and landslides during the rainy season (November to April) are the most prevalent disasters. Additionally, the impacts of drought during the dry season can be significant and pose significant challenges.

The El Niño phenomenon in 2015 to 2016 provided significant lessons learned and had far-reaching consequences, affecting approximately 400,000 individuals across municipalities including Covalima, Oecusse, Baucau, Viqueque, and Lautem.

Flooding in Timor-Leste is also an emerging risk. In April 2021, the disastrous floods due to intense rainfall from the Tropical Cyclone Seroja affected 32,00 households throughout the country and caused losses of more than 300 million US dollars.¹

According to the 2022 report *Impacts, Adaptations, and Vulnerabilities by the Intergovernmental Panel on Climate Change*, there is alarming evidence that extreme weather events are intensifying.²

Such trends pose a serious risk to Timor-Leste.^{3,4} Projections show temperatures increasing in the country, sea levels rising, and rainfall decreasing during dry seasons increasing drought risk, and increasing seasonally.⁵

In 2020 the ND-GAIN Index, which assesses the comparative resilience of countries, ranked Timor-Leste 129th out of 182 countries in vulnerability to the impacts of climate change.⁶ We need to think creatively and innovatively to meet these growing challenges.

Anticipatory Action is gaining momentum as a disaster management approach, enabling humanitarian and development actors to mitigate and minimize the impact of predictable crises. The availability of improved hazard forecasting and early warning information has expanded capacities to anticipate disasters and act swiftly to protect at-risk communities.

Over the past year, there has been a growing uptake of Anticipatory Action in Timor-Leste. However, alongside its popularity, confusion over terminology and approaches has emerged, hindering progress. Lessons learned from other countries also showcase the importance of collaboration.

This road map outlines specific actions and guidelines for stakeholders and agencies to move forward with the agenda for Anticipatory Action agenda in Timor-Leste and meet some of these challenges. A comprehensive strategy will enable actors to better respond to climate-related hazards. Under the leadership of the government, collective efforts will drive progress in embedding Anticipatory Action as an integral part of disaster risk management.

1 Timor-Leste: Disaster Management Reference Handbook (March 2022).

2 IPCC. 2022. Climate change 2022: impacts, adaptation, and vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press.

3 ASEAN Risk Monitor and Disaster Management Review (ARMOR) 2nd edition. Jakarta: AHA Centre. <https://ahacentre.org/publication/armor-2nd-2020/>

4 World Bank Climate Change Knowledge Portal. (n.d.). <https://climateknowledgeportal.worldbank.org/country/timor-leste/vulnerability>

5 ESCAP and ASEAN. 2020. Ready for the dry years: building Resilience to drought in South-East Asia with a focus on Cambodia, Lao People's Democratic Republic, Myanmar and Viet Nam: 2020 update. Bangkok: Economic and Social Commission for Asia and the Pacific and Association of Southeast Asian Nations. <https://www.unescap.org/sites/default/files/publications/Ready%20for%20the%20Dry%20Years.pdf>

6 University of Notre Dame. (n.d.). Rankings // Notre Dame Global Adaptation Initiative // University of Notre Dame. Notre Dame Global Adaptation Initiative. <https://gain.nd.edu/our-work/country-index/rankings/>

The road map further aligns with the *ASEAN Framework on Anticipatory Action in Disaster Management* while focusing on Timor-Leste's unique challenges. In November 2022, the country was granted observer status for all ASEAN meetings pending full membership. Aligning to the framework and the ASEAN agreement on disaster management and emergency response are now key priorities.

The road map sets the stage for building a more resilient nation and effectively managing climate risks. With a shared understanding and commitment to Anticipatory Action, stakeholders can collaboratively address the challenges of climate-related hazards, ensuring the safety and protection of at-risk communities in Timor-Leste.



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2. Methodology

The Timor-Leste Anticipatory Action road map was a collaborative and participatory endeavour, spanning February to August 2023. The process commenced with a workshop held in Dili on 16–17 of February 2023 where the topic was introduced, and valuable feedback was gathered to shape the road map. This pivotal workshop, co-hosted by the Disaster Risk Management Committee, Civil Protection Authority (CPA), the Food and Agriculture Organization of the United Nations (FAO), the International Federation of Red Cross and Red Crescent Societies (IFRC), and the Red Cross Red Crescent Climate Centre (“the Climate Centre”), aimed to provide clarity and chart a visionary path for Anticipatory Action over the next five years.

The road map was also supported by extensive consultations with relevant stakeholders and experts in Timor-Leste, ensuring diverse perspectives and insights were incorporated into the plan.

Additionally, thorough research was conducted and valuable lessons assimilated from agencies with prior experience in Anticipatory Action, further enhancing the road map’s effectiveness and relevance. The inclusive and informed nature of the process ensures that the Anticipatory Action road map reflects the needs and aspirations of Timor-Leste, fostering a comprehensive and robust strategy for building resilience and safeguarding communities from climate-related hazards.

The consultation workshop on the road map review was held in November 2023 to agree on the ownership and discussion on the five-year action plan. Some 60 participants joined the workshop came from the government institutions, UN agencies, the private sector, national and international NGOs and the National Disabled People’s Organization (Raes Hadomi Timor Oan).

This road map was finally validated by members of Anticipatory Action Technical Working Group (AATWG) and other stakeholders during a national validation workshop on 19 April 2024, organised by CPA with the technical support from FAO and the Climate Centre. The workshop was officially opened by the Secretary of State for Civil Protection, Domingos Mariano Reis.

3. Ownership

In November 2023, the CPA held a workshop consultation with stakeholders on the five-year Anticipatory Action road map and the AATWG. The workshop participants, and AATWG members agreed the CPA will chair the AATWG and lead the implementation of the road map backed by its co-chairs, FAO and the IFRC and Climate Centre. The CPA and the AATWG chairs are responsible for coordinating with the AATWG.



4. Definitions

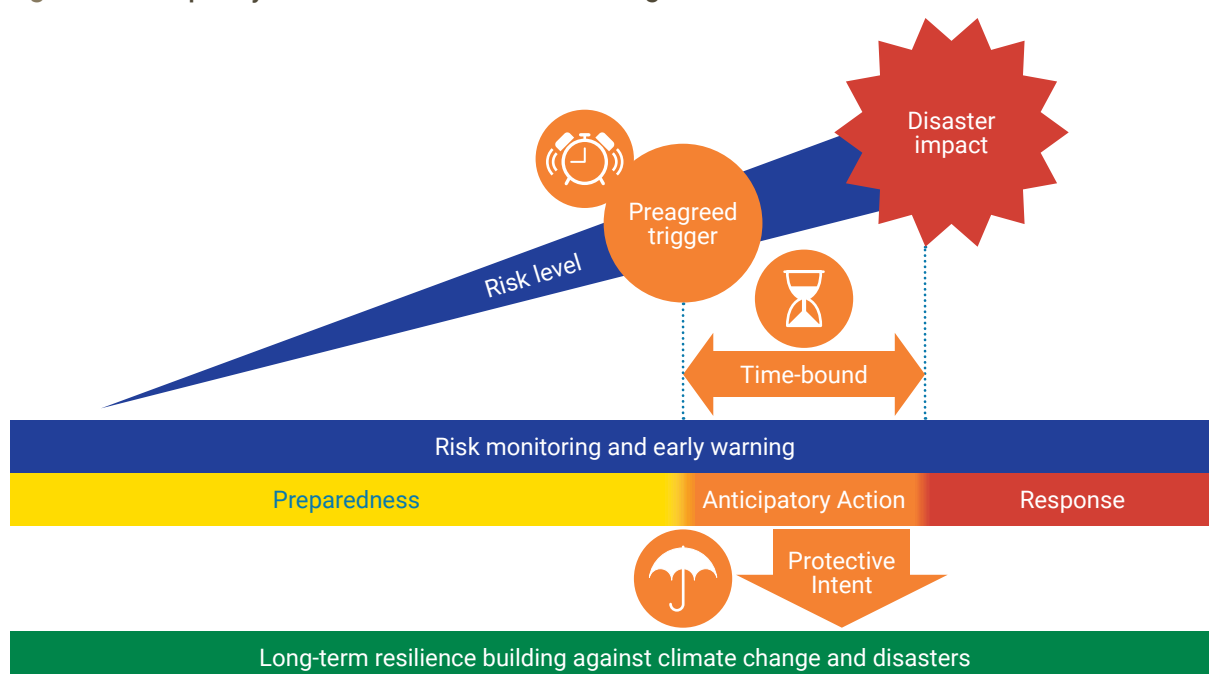
ASEAN defines Anticipatory Action as:

A set of interventions that are carried out when a hazard poses imminent danger based on a forecast, early warning or pre-disaster risk analysis. Anticipatory action is taken by an individual or organization before an anticipated disaster to mitigate its impact on people, assets and infrastructure that are likely to be affected.⁷

In the road map, the shared understanding of Anticipatory Action will continue to align with the ASEAN definition, but at the request of the government, a simplified version has been developed specifically tailored to Timor-Leste:

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.

Figure 1. Anticipatory action in the disaster risk management continuum



Source: ASEAN Framework on Anticipatory Action in Disaster Management, 2022.

Several helpful explanations of how Anticipatory Action differs from other disaster management concepts are outlined in the technical standards for Asia Pacific, including:⁸

- Anticipatory Action is different from other types of disaster response, because all the activities take place before an anticipated disaster (see Figure 1).
- And because it is based on a forecast or early warning.

Anticipatory Action fits into the framework of comprehensive disaster support and complements other activities.

⁷ ASEAN. 2022. ASEAN Framework on Anticipatory Action in Disaster Management. <https://asean.org/wp-content/uploads/2022/06/ASEAN-Framework-on-Anticipatory-Action-in-Disaster-Management.pdf>

⁸ Asia-Pacific Technical Working Group on Anticipatory Action. 2023. Technical Standards on Anticipatory Action in Asia and the Pacific, Bangkok.

5. Anticipatory Action in Timor-Leste

5.1 Relevance

Anticipatory action is a relevant approach for Timor-Leste to meet these challenges and protect at-risk communities, assets, and infrastructure when a hazard poses imminent danger. It can also help protect improvements in the economic development, social outcomes, poverty reduction, nutrition and food security.

Work to mainstream Anticipatory Action in disaster risk management has already begun. The February 2023 workshop brought together the government, FAO, the IFRC, the Climate Centre, and other partners to inform the new road map. The workshop highlighted the need to look at Anticipatory Action as not as a completely new idea but one that builds on existing gains and long-term investments in early warning early action.

5.2 Potentials and limitations

Participants at the February 2023 workshop saw Anticipatory Action as an opportunity to improve disaster management. By acting in advance of disasters, the key impacts can be prevented or mitigated. This will help protect at-risk communities and development gains and make disaster management budgets more cost effective. There is increasing evidence that Anticipatory Action offers value for money compared to traditional response to climate impacts. To various extents globally, this approach has been shown to be effective for climate risks relevant to Timor-Leste.

Anticipatory Action is an opportunity for closer collaboration between disaster management actors under the leadership of the government. Input from stakeholders across the disaster management community of Timor-Leste will produce coordinated early warnings and action. Timor-Leste can learn from other countries and with commitment across the Timor-Leste disaster management community, there is the potential to strengthen disaster management with efficient, effective and sustainable Anticipatory Action.

A CPA Technical Working Group will coordinate Anticipatory Action actors, ensuring alignment with government priorities. Organizations with relevant expertise will provide support to ensure the programmes are genuinely participatory. Existing coordination groups can be harnessed to support Anticipatory Action, such as the disaster risk management community, and international stakeholders such as ASEAN will be enlisted to share lessons. The in-country expert agencies and internal partners will support access to donor funding for Anticipatory Action, which is benefitting from increasing commitment from international donors.⁹

Workshop participants also noted some challenges; inconsistent skill and coverage of forecasting information across hazards, for example. This can reduce the geographical scope of anticipatory interventions and the time between an early warning for a disaster and the onset of its impacts.

However, the ongoing Green Climate Fund (GCF) project on enhancing early warning systems aims to strengthen climate data, weather forecasting and climate services in Timor-Leste, hopefully improving its capacity for climate risk management and Anticipatory Action. As national service providers to this GCF project, key country stakeholders like the Timor-Leste Red Cross (the CVTL in its Portuguese acronym), the Diresaun Nasional Meteorologia and Geofizika (DNMG) and the CPA are well coordinated with each other. Also, current Anticipatory Action pilots from different agencies like FAO, CVTL and others can provide a solid foundation for country-wide scaling up of Anticipatory Action.

⁹ Anticipatory Action Event 2021 – High-level Humanitarian Event on Anticipatory Action: A Commitment to Act before Crises, Co-chairs' statement, September 10, 2021. (2021, September 10). OCHA.

Anticipatory Action will not be appropriate for all natural hazards that impact Timor-Leste. Some, like earthquakes, cannot be forecast while others, like tsunamis, are only forecastable with extremely short lead-times. Despite the limitation with these hazards, preparedness and risk reduction measures should still be taken.

Another limitation is the current access to funding for Anticipatory Action. Most participants of the 2023 workshop noted that there are currently limited or no funds for any pre-emptive actions as the country's funding for disaster management funding is largely focused on response; perhaps unsurprisingly given the novelty of Anticipatory Action.

This road map outlines how the potential for Anticipatory Action will be harnessed and limitations overcome. Strong building-blocks will be developed encompassing risk information, forecasting and early warning systems, alongside coordinated planning, operations and delivery, as well as pre-arranged finance.

5.3 Alignment with ASEAN

As an ASEAN observer, tools and frameworks are available to Timor-Leste through the organization to support Anticipatory Action endeavour. ASEAN lays out how its member states and partners integrate Anticipatory Action in disaster management, and how they understand the role of Anticipatory Action within these systems. The new road map for Timor-Leste will align closely with the ASEAN network, sharing and contributing learning and experience.

5.4 Alignment with the government

The mandate for disaster risk management and response legally sits with CPA at the national level and with municipal authorities at the local level. The CPA is the central body responsible for coordinating civil protection, while the municipal authorities focus on disaster preparedness and response. They are autonomous but coordinate with central bodies, with the Municipal Councils for Civil Protection playing an advisory role to the presidents of municipal authorities.¹⁰

Ministries also conduct preparedness planning and maintain strategies that include approaches closely aligned to Anticipatory Action. The Ministry of Agriculture, Livestock, Fisheries and Forestry (MALFF) maintain multi-hazard standard operating procedures for early action and response in agriculture, supported by FAO. This SOP informed action such as preparedness planning and early actions in advance of El Niño in 2023, for example.

5.5 Gender mainstreaming

The Government of Timor-Leste has shown a strong commitment to gender equality through comprehensive policies and programmes across various sectors, including education, health, economic development, and political participation. With a solid legislative and constitutional foundation, these efforts aim to empower women and girls while ensuring their meaningful participation in decision-making at all levels of society.

The Timor-Leste Strategic Development Plan outlines the government's vision and priorities for national development, including specific goals and objectives related to gender equality, highlighting its view of this as a fundamental aspect of sustainable development.

Government initiatives prioritize the needs and concerns of women and girls, aiming to create an enabling environment where they can fully participate and benefit from development opportunities.

Integrating gender considerations into the Anticipatory Action road map and initiatives on forecast-based financing strengthens the government's commitment to promoting gender equality in disaster management, ensuring that early actions benefit all members of society equitably.

¹⁰ World Vision, Policy Analysis on Disaster Risk Management.

5.6 Forecasting and risk information

In Timor-Leste, meteorological and agrometeorological services are provided through the main governmental authorities: the MALFF, CPA, DNMG, and the CPA. The DNMG consists mainly of the three departments of meteorology, geophysics, and climate monitoring.

The Department of Meteorology operates three automatic weather stations and two manual stations, producing rainfall forecasts with lead times of three and seven days, with an update frequency of one day. The Department of Climate Monitoring produces seasonal rainfall, temperature, and monitoring and forecast information on El Niño/La Niña.

This information reaches the public, the Agricultural and Land-use Geographics Information System (ALGIS), and the CPA through social media, TV and radion. The CPA was established in 2020 and is responsible for disseminating early warning information received from the DNMG to municipal authorities.

The ALGIS currently receives weekly or monthly forecasts of rainfall, wind speed, and temperature from DNMG and produce seasonal bulletins with three-months' observed and three-months' forecast rainfall (NOAA's North America Multi-Model Ensemble), outlooks for ENSO and the Indian Ocean Dipole, and a decadal forecast with a vegetation health index and an agricultural stress index.

In 2023 the DNMG and partner organizations launched the National Framework of Climate Services, a coordination mechanism with key climate-sensitive sectors – including health, agriculture, water, disaster risk reduction, water and environmental management – to facilitate the integration of climate information and disaster risk knowledge into their decision-making.

As with many disaster-prone countries there is limited public accessibility to early warning systems where they do exist and inadequate funds for creating or maintaining them. This lack of accessibility disproportionately affects women and other marginalized groups who may face additional barriers in accessing and understanding early warning messages.

Women, especially those in rural areas, may face limited access to information and technology, as well as restricted mobility, which hinders their ability to receive and act upon early warnings in a timely manner. Additionally, gender norms and inequalities may further marginalize women in decision-making related to disaster preparedness and response.

This creates a lag in communicating early warnings and can delay them being acted upon. Addressing these gender-specific challenges is crucial for ensuring that early warning systems are inclusive and effectively reach all members of the community.

Lack of local weather stations and flood monitoring sensors pose a challenge to the DNMG in specifying danger levels and flood warnings to some municipalities facing extreme rainfall or red alert, again disproportionately affecting women and other marginalized groups.

5.7 Funding

A limited number of actors in Timor-Leste have access to funds for Anticipatory Action. The GCF has committed 21 million US dollars to help transform Timor-Leste's climate information capabilities and early warning systems, vital to the country's response to climate change. Over a five-year period, it will focus on increasing awareness of disaster risk knowledge among communities. It will also help strengthen the detection, monitoring and forecasting of hazards. An estimated 1.3 million people will benefit from the project, through increased preparedness and response capabilities.¹¹

As part of this project FAO, the IFRC and the Climate Centre will be delivering an Anticipatory Action component that includes different sectors such as agriculture, health and disaster management.

¹¹ UNOPS. (2022, December 9). Fighting climate change with resilience in Timor-Leste. UNOPS. <https://www.unops.org/news-and-stories/news/fighting-climate-change-with-resilience-in-timor-leste>

The Australian Department of Foreign Affairs and Trade's five-year programme has a section on Anticipatory Action that started in 2023. The Australian Humanitarian Partnership (AHP) has allocated funding of 1.66 million Australian dollars to test community-based Anticipatory Action in Timor-Leste and the wider Pacific until 2026.

In the 2023 workshop examples were noted where Anticipatory Action funds could be accessed, including the IFRC's Disaster Response Emergency Fund (IFRC-DREF) and FAO's Special Fund for Emergency and Rehabilitation Activities, which the CVTL can collaborate on through approved early action protocols (EAP); the UN Central Emergency Response Fund (CERF) that UN agencies can access; and the Timor-Leste Ministry of Finance.

There were recommendations to expand on existing preparedness or response capacity and funding in Timor-Leste, including expanding the GCF to target all areas of early warning systems, and establishing new government mechanisms, laws and standard operating procedures.

5.8 Stakeholders

Stakeholders that are key and vital to Anticipatory Action initiative include the AHP consortium; international agencies CARE, Oxfam, World Vision, Caritas and Plan International; the CPA, CVTL, DNMG, the Climate Centre, FAO, the World Food Programme (WFP) and Similie.

International NGOs

Under the Disaster Ready Project funded by Australia, five INGOs partner with civil society organizations implementing Anticipatory Action projects for floods in villages of seven municipalities. World Vision is piloting Anticipatory Action in villages of Bobonaro municipality; Care International works at Viqueque municipality targeting two villages; Oxfam is targeting two villages of Oecusse; CARITAS is implementing at the municipalities of Manufahi (one village), Viqueque (three villages) and Liquica (two villages); and Plan International is implementing at Ainaro (five villages) and Lautem (three villages).

The CPA

As the government authority leading the disaster management, the CPA has critical role in early warning systems, particularly the communication and dissemination of early warning information. Under the CPA, the Civil Protection National Operational Command (CNOPC) is responsible for disseminating early warning advisories to the public and to all CPA at municipal level.

The CNOPC usually get weather information and early warning from the DNMG through WhatsApp, email and Facebook. It then disseminate the information to the CPA at municipality level. The also CPA has the legal mandate for disaster response recovery.

As one of the GCF-supported national service providers, it has been working closely with its key project partners such as IFRC, FAO, CVTL and the Climate Centre on setting up systems for Anticipatory Action, including mapping, road-map development and establishment of the Technical Working Group.

The CVTL

The CVTL is recognized as an auxiliary to the government and its role is vital in disaster risk management. It implements its disaster risk management programme in all municipalities and is recognized for its approach in community-based work. Currently, the CVTL is another national service providers under the GCF-supported early warning project and is responsible for community-based early warning systems in three municipalities. The CVTL is developing an early action protocol with the support of the Climate Centre and the Australian Red Cross to pilot Anticipatory Action for floods in five municipalities. The CVTL has been working closely with the IFRC, the Climate Centre, and other National Societies to build the capacity of its staff in Anticipatory Action.

The DNMG

The primary role of the DNMG is to forecast, analyse and prepare weather, climate and seismic data, and ensure the provision of information to the public, the agricultural sector, maritime, aeronautical and private and public entities.¹² They provide forecasts on a daily basis, as well as three- and seven-day weather forecasts and seasonal climate outlooks on a monthly basis. As such, the DNMG plays a critical role in the implementation of Anticipatory Action.

The Climate Centre

The Climate Centre is an IFRC specialist reference established to support the Red Cross Red Crescent Movement and its partners in reducing the impact of extreme weather and climate change. It is mainly responsible for the establishment and scaling up of Anticipatory Action systems for *climate*-related hazards in the country and has been working closely with key partners such as the FAO and the CPA in developing the road map over the next five years. Climate Centre has been providing technical support to CVTL in developing an early action protocol for floods.

FAO

FAO has significant experience with Anticipatory Action in the region and worldwide. It co-chairs the Asia-Pacific Technical Working Group on Anticipatory Action, with the IFRC, and co-chairs the national Anticipatory Action Technical Working Group alongside the CPA in Timor-Leste. FAO is an implementing partner of the GCF project enhancing early warning and Anticipatory Action for hydrometeorological hazards in Timor-Leste. As part of this FAO, aimed to develop Anticipatory Action protocols for agricultural risks such as drought and flood. In 2023, the FAO developed a protocol for agricultural drought and with the government implemented Anticipatory Actions to mitigate the impacts of before its peak.

WFP

WFP plays a pivotal role in Anticipatory Actions internationally, proactively preparing for disasters. This includes enhancing early warning systems, prepositioning food supplies, cash-based transfers, and climate-resilient agriculture promotion. It conducts research, capacity building, and community engagement, fostering partnerships and policy advocacy. By combining data analysis, training, and swift responses, WFP ensures timely, targeted aid, strengthening community resilience against crises, and promoting sustainable food security.

Similie

Similie provides technical support for automatic weather stations, early warning information, smart metering of community water supplies, and more. It has worked with INGOs such as Mercy Corps and World Vision in installing automatic IoT¹³ weather stations, providing real-time monitoring of hydrometeorological data and visualization.

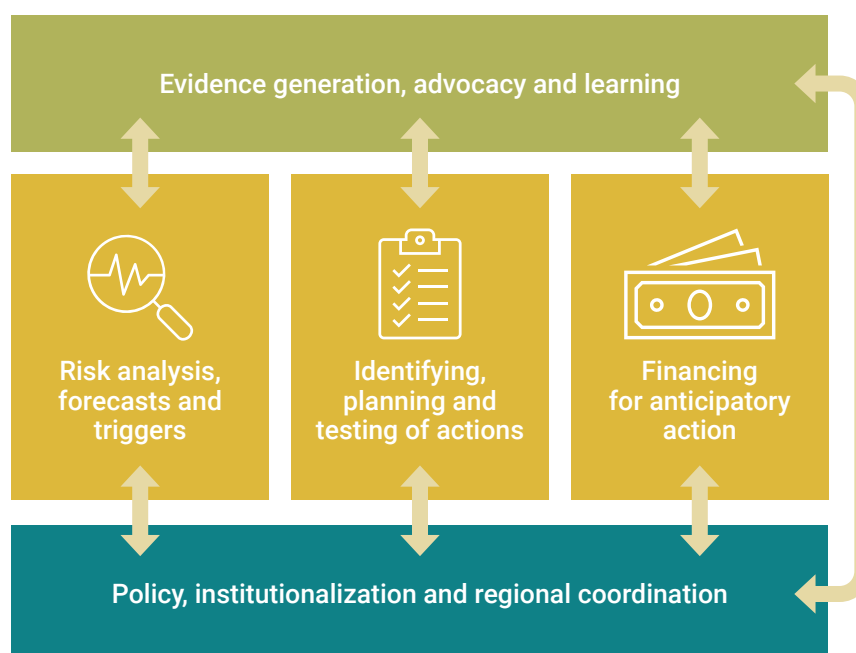
¹² Direção Nacional de Meteorologia e Geofísica (DNMG). (n.d.). National Directorate of Meteorology and Geophysics. <http://www.dnmg.gov.tl/history>

¹³ Internet of Things.

6. Timor-Leste Vision for Anticipatory Action 2025–2029

Save lives, assets and livelihoods from imminent danger to reduce disaster related loss and damage to make the population of Timor-Leste better, sustainable and resilient.

To work towards this vision, the road map outlines measurable objectives and activities with proposed roles and responsibilities covering the period 2023 to 2027 across five major areas:

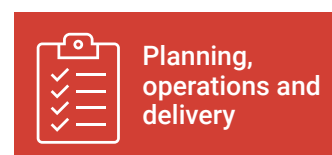
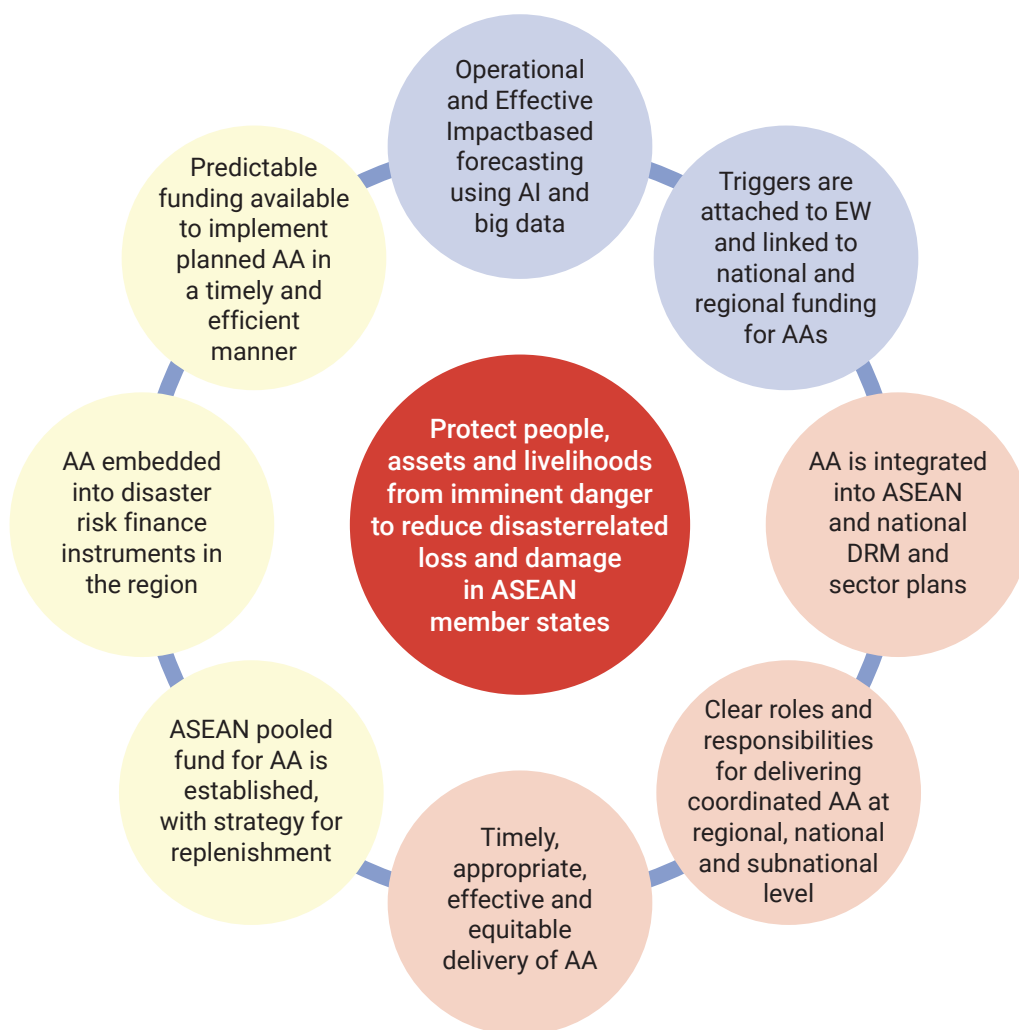
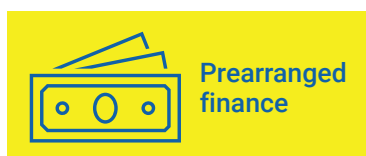


These areas include the three building blocks for Anticipatory Action identified in the ASEAN Framework and the Asia Pacific Technical Working Group on Anticipatory Action standards document:

1. Risk information, forecasting and early warning systems
2. Planning, operations and delivery
3. Pre-arranged finance

They also reflect the critical barriers and opportunities for advancing Anticipatory Action in the region that were identified through the consultation process, namely: the need for enabling policy and institutionalisation to establish and scale up Anticipatory Action, as well as the importance of generating robust evidence, advocating on the basis of that evidence, and learning jointly through inclusive knowledge sharing and training.

The vision is included in the ASEAN five-year plan for Anticipatory Action and aims to contribute to the outcomes shown below in Timor-Leste's capacity as an observer state.



7. Plan of action

To meet the demands laid out in the vision for Anticipatory Action, this road map sets out a 2025–29 action plan derived from the 2023 workshops, where participants identified six key areas.

Policy, institutionalization and coordination

Vision

Anticipatory action is integrated within local-level disaster management structures, plans and budgets to ensure its effective implementation and sustainability. National Anticipatory Action frameworks support inter-agency and inter-sector coordination in line with regional frameworks where these exist.

Five-year objectives

- National multi-agency Anticipatory Action frameworks and early action protocols, aligned with national disaster risk management policies (and with the ASEAN framework) are established and endorsed by the government.
- Anticipatory Action is integrated within government disaster management policies, plans and funding mechanisms.
- The AATWG is active and provides critical advice for scaling up the approach at the national and local levels.
- Defined roles and responsibilities, cooperation and coordination between line ministries, national and international agencies, and religious groups at local, national and regional levels.
- Strengthening integration of Anticipatory Action into national disaster management standard operating procedures.
- Advocating for a dedicated contingency fund from the government annual budget for line ministries to address disaster risk and enable anticipatory response.

Achieving the mainstreaming of Anticipatory Action in Timor-Leste will require buy-in from institutions, agencies and communities, as well as a basis in policy and law. Under the umbrella of the Technical Working Group led by the CPA, an analysis of policy will be conducted on how to accommodate Anticipatory Action into the disaster management policy and law.

Government agencies will be identified to lead coordination forums on Anticipatory Action and be capacitated with knowledge on the topic from expert partners. Key groups to engage in this identified include the Humanitarian Country Team, disaster risk management specialists, sector working groups and the cluster forum. Key policies for Anticipatory Action to link to include civil protection law, the National Emergency Response Plan, the Ministry of Agriculture's disaster risk management policy, the Ministry of Transport and communication decree law focusing on telecommunications.

The AATWG will lead coordination for Anticipatory Action in Timor-Leste. Existing disaster management stakeholders and coordination groups will be engaged on the topic of Anticipatory Action, and it will be integrated into cluster TORs. Anticipatory Action will be integrated into the Inter-Agency Standing Committee country team, including in disaster preparedness plans and humanitarian response plans. Actors at the national level will need to understand and acknowledge how resources are made available in the sub-national level.

Sustained capacity building on Anticipatory Action will be delivered to stakeholders among the disaster management community. Agencies with expertise in Anticipatory Action (such as FAO, IFRC, Climate Centre) will host trainings and workshops in close collaboration with CPA, including a training of trainers with colleagues and partners from the members of the AATWG who can then lead such workshops and trainings at national and local level in the future.

Content on Anticipatory Action will be simplified for audiences without technical expertise in training materials and documents, remaining linked to the ASEAN framework. This includes content on triggers and thresholds, where in-depth work will be left to technical experts. Key documents, definitions and concepts translated into Tetum will further support our work at the national level.

(In the following tables, please refer to the guide to Acronyms.)

Priority actions	Indicators of progress	Responsible institution	Timeframe
Review of laws and policies to pursue integration of Anticipatory Action and consider gender responsive approaches into such legislation and policy.	Review of laws and policies. Agreed action plan of TWG on policies and laws.	Led by CPA, AATWG, line ministries (MTE, MTC, MALFF, MSA, MoE, MoFA, MSSl, MoI, NDA)	2025–28
Integration of Anticipatory Action and national disaster risk management policy and Lei no. 3/2016 (local).	Policy brief on how to accommodate Anticipatory Action into existing disaster risk management laws and policies. Policy integration of the action plan. Successful integration of Anticipatory Action into law and policy.	TWG(CPA,DNMG,MALFF) and line ministries (MSSI, NDA, MTE, MoF)	2025–29
High-level meeting with ministers and decision makers (including ASEAN) to build buy-in for and understanding of Anticipatory Action early in the road map timeline.	Number of high-level meetings with ministers and decision-makers.	CPA, MALFF, DNMG, NDA, MoE with support of FAO, CVTL, IFRC, Climate Centre, AHP consortium	2025–26
Formation of AATWG.	Regular meetings of TWG. The ToR of AATWG is developed and shared. Timor-Leste Anticipatory Action road map published in English and Tetum.	Led by APC with the support from FAO and Climate Centre and NDA, DNMG, and CVTL	2025–26
Inter-ministerial training on Anticipatory Action.	25 per cent of line ministries have participated in this training and increased knowledge on Anticipatory Action.	All line ministries, CPA and TWG Co-chairs	2025–29
Weather and climate socialisation in the municipalities.	Government staff including women and men in 14 municipalities have increased knowledge on climate socialization.	Led by DNMG, MTE, CPA, ALGIS, CVTL, and WFP	Annually
Explore the connection between Anticipatory Action and social protection systems, namely school feeding programmes.	Pilot test the Anticipatory Action approach via social protection programming.	Ministry of Education, MSSl, MSA, FAO, WFP, CARE and MTCI	2025–26
Dissemination of CPA law and Anticipatory Action.	Local government and key stakeholders in 14 municipalities improved knowledge on CPA law and Anticipatory Action.	Mainly led by CPA, CVTL, FAO, IFRC/Climate Centre, AHP Consortium NGOs and WFP	2025–26

Priority actions	Indicators of progress	Responsible institution	Timeframe
Disaster risk management community capacity building on Anticipatory Action.	Technical training (e.g. information management and GIS on Anticipatory Action). Anticipatory Action training of trainer for 20 persons. Training on application of agricultural EWEA 300 participants. Simplification and translation of key concepts and documents into accessible language.	CPA, FAO, CVTL, Climate Centre, AHP consortium NGOs (CARE, Plan International, CARITAS, OXFAM, World Vision and WFP	2023–26
Community driven Anticipatory Action campaign with a gender sensitive approach to promote localised approaches.	14 municipalities have accessed to IEC material related to Anticipatory Action campaign.	CPA, CVTL, AHP consortium NGOs, DNMG, ALGIS and other AATWG members	Annually
Integrate Anticipatory Action into the existing cluster coordination.	Anticipatory Action will be integrated into Cluster TORs.	CPA and UN RC	2025–27

Risk analysis, forecasts and triggers

Vision

Multi-hazard Anticipatory Action triggers based on impact forecasting approaches are co-developed together with the DNMG, the CPA, the Ministry of Agriculture, Livestock, Fisheries and Forestry and other ministries and agencies to predict the timing, location and scale of climate and weather related shocks and impacts, and support the shared understanding of forecastable hazards, impact-based forecasting, scale and sector-specific actionable triggers. Climate and weather forecast and risk information are further localized, down-scaled and communicated effectively.

Five-year objectives

- Anticipatory action triggers for several hydrometeorological hazards including drought, heavy rainfall, floods, landslides, strong winds, and heatwaves have been set up and tested under the leadership of the DNMG and ministries/authorities and agencies.
- National capacity of meteorological and hydrological services has been strengthened to enable more robust impact-based forecasting and trigger development for Anticipatory Action.
- Triggers and thresholds are linked to flexible financing mechanisms.

The skill/accuracy, resolution and regularity of hazard forecasts for Timor-Leste needs to be improved for widespread, effective Anticipatory Action. Data and equipment for early warning systems (EWS) need to be made widely available and sustainable, with early warnings integrated and accessible for relevant agencies and ministries and the public. The ongoing GCF-supported United Nations Environment Programme, *Enhancing early warning systems to build greater resilience to hydro-meteorological hazards in Timor-Leste*, will be largely addressing these needs for robust climate data, forecast information and multi-hazard and impact-based early warnings.

Capacity building will be conducted for relevant stakeholders and technical experts. Anticipatory Action systems will also consider how local, cultural knowledge including diverse gender perspectives, related to early warning and Anticipatory Action is integrated into the EWS data.

Anticipatory Action is underpinned by impact-based forecasting,¹⁴ with decisions to take action informed by the predicted impact of a hazard. To enable robust impact-based forecasting data on vulnerability to natural hazards will be enhanced. Capacity to conduct impact-based forecasting, and disaster risk modelling will be expanded with a focus on promoting gender equality and inclusivity, as well as through partnerships with regional and international providers.

Priority actions	Indicators of progress	Responsible institution	Timeframe
Develop Anticipatory Action triggers for drought and flood for pilot testing, while ensuring coordination and taking into account sustainability.	Establish drought and flood triggers for pilot testing. Government capacity is enhanced to develop, monitor and use trigger models.	DNMG, ALGIS, FAO, CVTL, Climate Centre, AHP consortium NGOs and WFP	2023–25
Available data and equipment for EWS are available and accessible, taking into account gender-specific need and ensuring inclusivity.	Hydro-meteorological observation network is expanded and upgraded. Functioning automatic warning system is established. Including top-down and bottom-up information sharing mechanism.	DNMG, IGTL, DNGRA, ALGIS and APC	2024–26
Data and systems of early warning are integrated and accessible for relevant agencies, ministries and the public.	Explore the requirements and possibilities for establishing impact based forecasting and decision support systems. Establish and operationalise decision support system based on the EWS or forecast information.	DNMG, TIC Timor, RIMES, IGTL, ALGIS and APC	2025–28
Document and synthesise evidence and lessons learned in Timor-Leste on how triggers are being developed and used for Anticipatory Action either from actual activations or testing triggers for slow and rapid onset climate hazards to provide a way forward for trigger harmonization.	Learnings on trigger developments for the Anticipatory Action pilots documented and shared widely. Recommendations for harmonizing triggers for the national Anticipatory Action framework.	DNMG, ALGIS, FAO, CVTL, IFRC, Climate Centre and WFP	2025–27
Capacity building on impact-based forecasting and trigger development for human resource are conducted.	Increased knowledge of personnel from different institutions on Anticipatory Action and impact-based forecasting.	FAO, RIMES and all possible INGOS	2025–27
Adequate internet connection is available.	Sufficient, stable, no disruption of internet connection and electricity to ensure functionality of Early warnings equipment and systems.	MTC, TIC Timor, EDTL, EP and telecommunication service provider	Annually
Integrate traditional knowledge, including gender-specific perspectives related to early warnings and climate risks into planning and processes of Anticipatory Action.	Documentation of traditional early warning systems and plan of action on how to complement this information with scientific Anticipatory Action triggers.	DNMG, MALFF, with support of partner agencies and WFP	Annually

¹⁴ Impact-based forecasting and anticipatory action – Anticipation Hub

Priority actions	Indicators of progress	Responsible institution	Timeframe
Improve damage and loss information collection and analysis.	Training on damage and loss methodologies. Surveys deployed and analysed post-disaster information considering gender-disaggregated data to better understand the differential impacts experienced by various genders.	CPA, NDA, National Statistics Agency, MALFF, MOPW, MSA, and WFP	Annually
Ensure available data and capacities for impact-based forecasting are available and sustainable.	Systematic collection of relevant risk information hazard, exposure and vulnerability), and sharing with the disaster management community. Increased capacity for impact-based forecasting and risk modelling for Anticipatory Action.	CPA, DNMG, ALGIS, RIMES, Climate Centre, FAO and WFP	2025–27

Planning, operations and delivery of Anticipatory Actions

Vision

Anticipatory Action protocols are established and harmonized across ministries and partner organisations to support the effective and efficient implementation of actions for key hazards and in relevant sectors, taking into account gender and social inclusion.

Five-year objectives

- Timely, appropriate, effective and equitable delivery of Anticipatory Action for both drought and flood risks are tested and protocols developed.
- Clear roles and responsibilities between government ministries, communities, and agencies for delivering coordinated anticipatory action at the national and sub-national level.
- Anticipatory Action is integrated into national disaster risk management standard operating procedures.
- Explore the potential of developing Anticipatory Action Protocols for other hydro-meteorological hazards like strong wind, heatwaves etc. as well.

The planned activities outlined in this road map will culminate in the production and delivery of Anticipatory Action plans, frameworks, protocols and standard operating procedures. These will be developed with a gender-sensitive approach, taking into account specific needs, capacities, and perspectives. These plans and frameworks will guide anticipatory interventions that are designed to protect and save people, assets and livelihoods from imminent danger and reduce damages and losses in an equitable manner.

Priority actions	Indicators of progress	Responsible institution	Timeframe
Strengthening the national operation centre on the design, selection and implementation of Anticipatory Actions.	Number of training on specialised topics. Number of operating centre people trained.	CPA, DNMG, MALFF, FAO, Climate Centre and WFP	2025–29
Anticipatory Action protocol for drought is developed and owned by the government.	Drafted, prepared and consulted with relevant stakeholders.	Led by CPA, FAO, MALFF, NDMG, DNGRA and WFP	2025–29
Anticipatory Action protocol for flooding is developed and owned by the government.	Drafted and prepared and consulted with relevant stakeholders.	Led by CPA, MALFF, NDMG, Climate Centre, CVTL, FAO, AHP Consortium NGOs, Similie MOPW and WFP	2025–29

Priority actions	Indicators of progress	Responsible institution	Timeframe
Explore the role of cash and voucher assistance for Anticipatory Action in the Timor-Leste context, ensuring consideration of gender-specific impacts and needs (food voucher and food for work).	Guideline of cash for rapid and slow-onset hazards is established for the Timor-Leste context.	CPA, MALFF, CVTL, FAO, Cash Working Group, MSSl, MSA and WFP	2025–27
Anticipatory Action Protocols are simulated and tested to gather process learning.	Three simulations are conducted.	Led by CPA and co-chair of TWG, MALFF, FAO, NDMG, IFRC, Climate Centre and WFP	Annually
Develop an SOP for DNMG to issue impact-based forecasts and early warnings in line with Anticipatory Action triggers to line ministries and sectoral agencies to inform decision makers to release financing for Anticipatory Action.	Drafted and prepared and consulted with relevant stakeholders. The SOP for DNMG is launched and disseminated among stakeholders.	DNMG, ALGIS, APC and NDA with the support from technical partners (FAO, IFRC Climate Centre, RIMES) and WFP	2025–28
Link the common alerting protocol with application programming interface client to enable user interaction, present data dynamically, and communication with the client application to exchange data.	Increased number of recipients.	DNMG, CPA, Similie	2025–29

Pre-arranged financing

Vision

Financing for Anticipatory Action is integrated into the risk financing systems and mechanisms of the national government, ensuring its seamless incorporation into overall disaster risk management strategies and efforts. Dedicated and sustainable funding mechanisms are established, both in the public and private sectors, to support and implement multi-hazard Anticipatory Action initiatives in the country.

Five-year objectives

- Predicable funding is available to implement Anticipatory Action protocols in a timely and efficient manner.
- Anticipatory action is embedded into disaster risk financing instruments at the national and sub-national level.

Increased access to financing for Anticipatory Action will be built through collaboration, partnerships and advocacy, integrating gender perspective to ensure equitable access to resources. Governments and agencies will review how to mobilise resources for funding Anticipatory Action, including incorporating it into the contingency fund for emergency mechanism. Agencies with international experience in Anticipatory Action will conduct a seminar for ministries on anticipatory action financing mechanisms, followed by validation of the seminar outcome. International partners, such as ASEAN, will provide guidance on accessing financing and setting up mechanisms.

Actors such as FAO, CVTL and the AHP will pilot Anticipatory Action initiatives in Timor-Leste. An evidence base and cost benefit analysis will be developed of these examples and analysis from past disaster events.

Priority actions	Indicators of progress	Responsible institution	Timeframe
Conduct financial mechanism study for Anticipatory Action in Timor-Leste.	The study is published with the identification of appropriate financing mechanism for Anticipatory Action implementation in Timor-Leste Ministries and AATWG members are made aware of the findings and way forward.	IFRC, Climate Centre, FAO	2024–25
Conduct seminar on Anticipatory Action to relevant ministries on financial mechanism.	50 per cent of line ministries participated in this Anticipatory Action Financing seminar. Strategic decisions/declarations on the Anticipatory Action financing mechanism are taken.	FAO, IFRC, Climate Centre and CPA	2024
Agencies specific funds established to pilot Anticipatory Action projects.	FAO pilot the Anticipatory Action protocols and delivery of action in TL for drought and flooding. IFRC and CVTL pilot Anticipatory Action protocol for floods through IFRC-DREF.	CVTL, FAO, AHP Consortium NGOs and other partner	2023–25
Incorporate Anticipatory Action financing within the contingency fund for emergency.	Central or ministerial level contingency fund for Anticipatory Action and rapid response established.	CPA, MALFF, VPMSA, and MoF	2025–28
Define Procurement Regulations related to Anticipatory Action implementation in Timor-Leste.	Existing procurement regulations for disaster response revisited and made compatible with Anticipatory Action timeliness.	CPA, MAF, MoF and WFP	2025–26
Explore potential of social protection systems for both Anticipatory Action financing and delivery, ensuring that the analysis considers gender-specific impacts, needs, and access to ensure equitable outcomes.	Existing social assistance mechanism are used for cash and voucher, food vouchers, Mosan, and T-Pay in Anticipatory Action.	FAO, WFP, CPA, MSSSI, CVTL, IFRC	2027

Evidence and learning

Vision

Anticipatory action policy and programming in Timor-Leste is informed by robust evidence on processes and impacts. The national-level community of practice develops a guideline for evidence and learning with government leadership and priorities at the forefront of efforts.

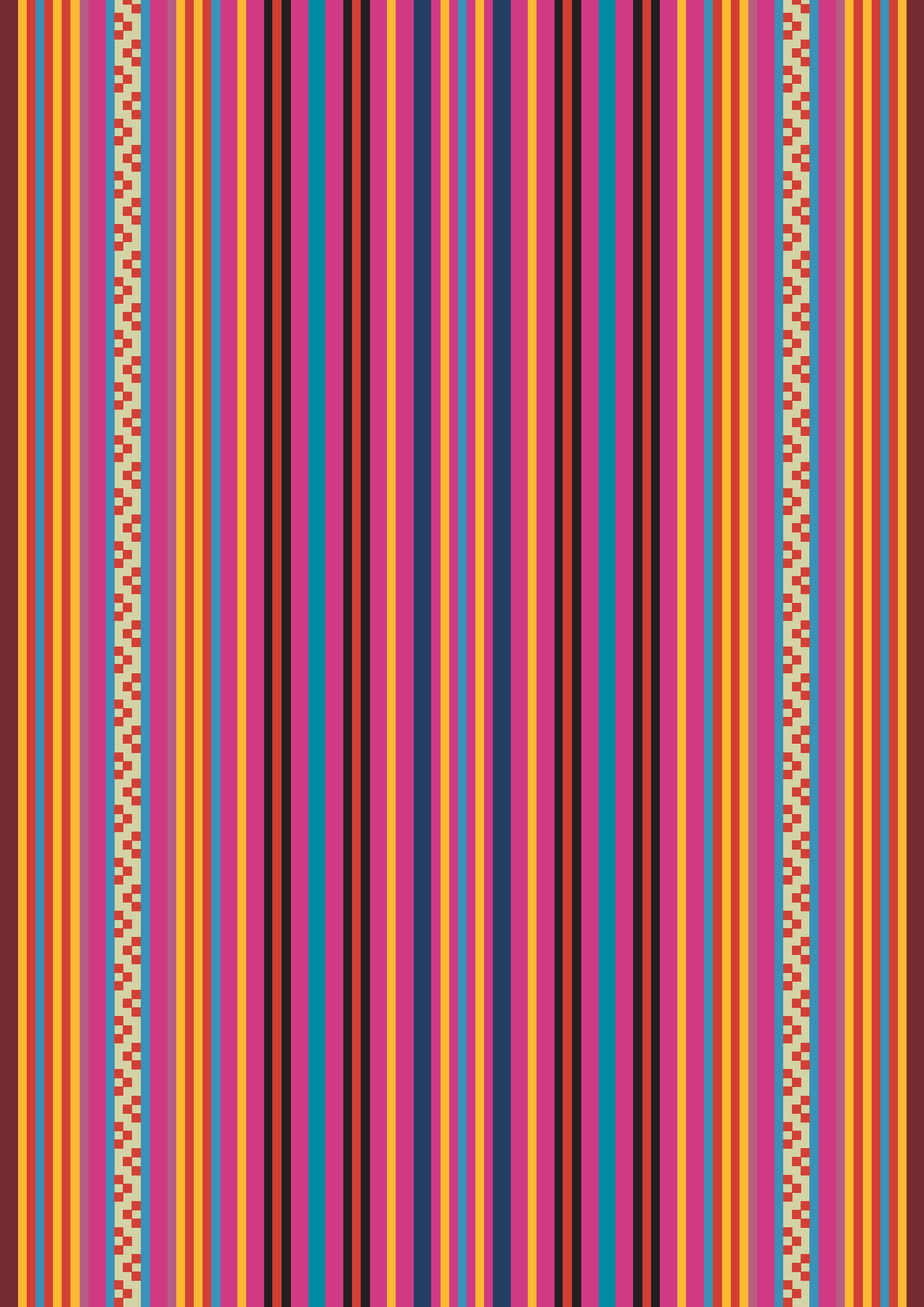
Five-year objectives

- Effective knowledge management systems are established to capture, document, and share valuable insights, best practices, and innovative approaches in the implementation of Anticipatory Action.
- Evidence is gathered and presented in a harmonized manner to present the bigger picture towards what aims to achieve in Timor-Leste.
- The TWG is represented in the regional platforms for humanitarian, disaster and climate action to advocate for joint, evidence-based positions and funding.

Stakeholders will collaborate to generate an evidence base on Anticipatory Action which demonstrates its value, providing lessons learned to improve coordination, planning, operationalization, and delivering Anticipatory Action. A common realistic set of SMART indicators for Anticipatory Actions will be agreed that aligns with the monitoring and evaluation framework within government agencies. This will include a mechanism to test, evaluate and learn from Anticipatory Action in Timor-Leste, ensuring that gender-balanced perspectives are considered in the evaluation process.

Regular reflection meetings will be conducted, incorporating gender perspectives to examine how Anticipatory Action approaches can be tested and realized. This will include an annual meeting held on the state of play for Anticipatory Action in Timor-Leste. Stakeholders will showcase the cost-benefit alongside community perspectives on how the approach works and can be applied in Timor-Leste. Implementing agencies will conduct participative approaches to demonstrating Anticipatory Action, ensuring inclusion of gender-balanced perspectives and the use of simulation exercises.

Priority actions	Indicators of progress	Responsible institution	Timeframe
Develop a M&E and evidence plan for Anticipatory Action highlighting tools and methods for application.	M&E plan developed which highlights government's priorities for learning.	CPA with assistance of MoF, MTC, NDA, MSA and AATWG	2025–28
Establish and exchange mechanism with a regional and international stakeholder for the capacity development.	Number of events attended, number of participants and number of meeting. Participants apply the obtained knowledge and skills.	CPA, MoFA, developmentpartners	2024–26
Captured learning for pilot implementation.	Compile all the lesson learned and case studies.	INGOs, CPA, DNMG, AATWG	Annually
Regular updates of the Anticipatory Action training curriculum with lessons learned gathered from the pilots and training feedback.	Number of TWG update meetings held and training modules or curriculum updated.	CPA, INGOs, AATWG	2025–26
Common realistic (SMART) indicator for aligned with the M&E framework within government agencies (NDP/PDN are developed).	SMART tools for Anticipatory Action M&E are developed and used.	AATWG and UPMA	Annually
Annual Anticipatory Action meeting or hold national dialogue on Anticipatory Action.	Number of stakeholder participants meeting in the national level Anticipatory Action dialogue.	TWG (CPA, MAF, FAO, CVTL, IFRC, Climate Centre)	Annually
Conduct regular reflection during trimestral AATWG meeting to updates and evaluate the progress and challenge of Anticipatory Action activities.	AATWG is established (CPA, Anticipatory Action actors).	AATWG and relevant stakeholders	Every three months
Develop Anticipatory Action guidelines or national framework.	Anticipatory Action guidelines/ framework is developed.	AATWG	2025–27
Anticipatory Action evidence analysis from the past disaster events and cost benefit analysis on Anticipatory Action.	Cost benefit analysis report is produced.	Government, CPA and partners	2025–28



The Timor-Leste Anticipatory Action Roadmap was formulated as part of the project 'Enhancing Early Warning Systems to build greater resilience to hydro-meteorological hazards in Timor- Leste'. The project is a USD 21.7 million initiative, led by the United Nations Environment Programme (UNEP) and funded by the Green Climate Fund (GCF), to establish integrated climate information services covering oceans and impact-based Multi-Hazard Early Warning System (MHEWS) for sectors (including health, agriculture, disaster risk reduction, water, and environmental management) and communities in Timor-Leste.



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