

REPUBLIC OF MALAWI

NATIONAL MULTI-HAZARD ANTICIPATORY ACTION FRAMEWORK

OFFICE OF THE PRESIDENT AND CABINET
DEPARTMENT OF DISASTER MANAGEMENT AFFAIRS

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Foreword by the Chief Secretary to the Government

Malawi continues to face increasing risks from climate-induced hazards, including floods, droughts, and strong winds, which threaten the lives and livelihoods of our people, particularly the most vulnerable. Over the past decade, these hazards have intensified in frequency and severity, posing major challenges for national development and resilience, and are projected to increase further in frequency, scale, and extent under climate change.

In response, the Government of Malawi, through the Department of Disaster Management Affairs, has prioritized the development of forward-looking systems that act before disasters strike. The National Multi-Hazard Anticipatory Action Framework represents a major step in this direction. It operationalizes the principles of early action by linking risk analysis, scientifically defined triggers, and pre-agreed early interventions with financing and governance mechanisms.

This framework is anchored in national priorities, including the Malawi Vision 2063, the National Resilience Strategy, the Disaster Risk Management Act (2023), and the National Disaster Risk Management Policy, 2025. It also aligns with regional and global frameworks aimed at strengthening disaster preparedness and response.

I commend the Department of Disaster Management Affairs, the Anticipatory Action Technical Working Group, and all national and international development partners who contributed to the development of this Framework. Let this be the beginning of a more proactive, anticipatory, and resilient Malawi.

Colleen Zamba
Chief Secretary to the Government
Republic of Malawi

Foreword by the United Nations Resident Coordinator

The development of Malawi's National Multi-Hazard Anticipatory Action Framework marks a significant milestone in strengthening the country's disaster preparedness and resilience architecture. In an era of escalating and compounding risks, acting early, before disaster strikes, not only saves lives and livelihoods, but also reduces humanitarian costs and protects development gains.

Malawi stands out as one of the first countries in the region to adopt a nationally led, multisectoral National Multi-Hazard Anticipatory Action Framework. This achievement reflects the strong leadership of the Government of Malawi, and the joint efforts of the Anticipatory Action Technical Working Group, comprising government institutions, UN agencies, NGOs, and development partners.

The National Multi-Hazard Anticipatory Action Framework offers a coordinated, inclusive, and forward-looking approach to anticipatory action, integrating risk analysis, scientifically defined triggers, pre-agreed early actions, and clear financing pathways. It provides a shared platform upon which all stakeholders can align their preparedness, programming, and investments.

On behalf of the United Nations system and partners, I reaffirm our commitment to supporting the operationalization and scale-up of this framework. Let us continue working together to build a more risk-informed, inclusive, and resilient future for all Malawians.

Rebecca Adda-Dontoh
UN Resident Coordinator
Malawi

Acknowledgement by the Commissioner for DoDMA

The Department of Disaster Management Affairs extends its sincere gratitude to all those who contributed to the development of Malawi's National Multi-Hazard Anticipatory Action Framework.

We gratefully acknowledge the financial support provided by CARE International, which made this process possible, and by the World Food Programme for funding the national validation workshop. We thank the Anticipatory Action Technical Working Group for its dedicated leadership, technical guidance, and collaborative spirit throughout the development of this Framework.

We further recognize the valuable contributions of national clusters, technical ministries and departments, humanitarian and development partners, and the local authority DRM committees, traditional leaders, Area and Village DRM Committees, school children, and community members in Chikwawa, Phalombe, Blantyre City, Zomba, Salima, Nkhatabay, and Rumphi, whose insights ensured the NAAF is rooted in local realities.

We also extend appreciation to the participants of the national validation workshop held from 25 to 27 June 2025, whose feedback helped finalize this framework. Special thanks to the OCHA and Save the Children Regional Offices for the technical input and strategic guidance during the process.

Finally, we recognize the consultancy team led by Dr. Stern Kita, and supported by Ms. Dorothy Tembo-Nhlema and Mr. Gumbi Gumbi, whose technical expertise, commitment, and facilitation enabled the co-creation of this comprehensive and actionable framework.

The NAAF represents a collective commitment to shifting Malawi's disaster risk management system from reaction to anticipation. Let us now move together toward implementation.

Rev. Moses Chimphepo
Commissioner for Disaster Management Affairs

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List of Abbreviations

AA	Anticipatory Action
AAP	Accountability to Affected Populations
ADRMC	Area Disaster Risk Management Committee
ARC	African Risk Capacity
CERF	Central Emergency Response Fund
CERC	Contingency Emergency Response Component
CHS	Core Humanitarian Standard
DCCMS	Department of Climate Change and Meteorological Services
DEOCs	District Emergency Operations Centers
DODMA	Department of Disaster Management Affairs
DRM	Disaster Risk Management
DDRMC	District Disaster Risk Management Committee
DRR	Disaster Risk Reduction
DWR	Department of Water Resources
ECHO	European Civil Protection and Humanitarian Aid Operations
FAO	Food and Agriculture Organization of the United Nations
FFGS	Flash Flood Guidance System
GAM	Global Acute Malnutrition
GCF	Green Climate Fund
GSFF	Global Shield Financing Facility
HCT	Humanitarian Country Team
IFRC	International Federation of the Red Cross and Red Crescent

IPC	Integrated Phase Classification
JFM	January, February, March
MRCS	Malawi Red Cross Society
MVAC	Malawi Vulnerability Assessment Committee
NAAF	National Multi-Hazard Anticipatory Action Framework
NAP	National Adaptation Plan
NCP	National Contingency Plan
NDAF	National Disaster Appeal Fund
NDC	Nationally Determined Contributions
NDJ	November, December, January
NDRFS	National Disaster Risk Financing Strategy
NDRMTF	National Disaster Risk Management Trust Fund
NEOC	National Emergency Operation Centre
NFCS	National Framework for Climate Services
NGO	Non-Governmental Organization
OCHA	Office for the Coordination of Humanitarian Affairs
OND	October, November, December
SCTP	Social Cash Transfer Programme
SDG	Sustainable Development Goal
SOP	Standard Operating Procedure
SP	Social Protection
SPI	Standardized Precipitation Index
SPEI	Standardized Precipitation-Evapotranspiration Index

SSRLP	Social Support for Resilient Livelihoods Programme
TWG	Technical Working Group
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VDMRC	Village Disaster Risk Management Committee
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization

Executive Summary

Malawi is one of the most climate-vulnerable countries in the world, regularly affected by floods, droughts, strong winds, and stormy rains. These hazards frequently result in humanitarian crises, food insecurity, displacement, and disrupted livelihoods. Such extreme weather events are projected to increase in intensity, frequency and extent under climate change. While early warning systems have improved, disaster response in Malawi remains largely reactive, with critical interventions often arriving after the worst impacts have occurred.

To shift from crisis response to proactive risk management, the Government of Malawi has developed a National Multi-Hazard Anticipatory Action Framework (hereafter referred to as NAAF). Led by the Department of Disaster Management Affairs and coordinated through the Anticipatory Action Technical Working Group (AA TWG), in partnership with local authorities and national and international development stakeholders, the NAAF is a practical reference tool designed to guide decision-makers, technical agencies, humanitarian actors, and sectoral stakeholders on how and when to implement anticipatory actions in Malawi. It sets out a structured approach for acting before disaster occurrence, based on scientifically defined triggers, pre-agreed early actions, and pre-arranged financing mechanisms.

The NAAF is grounded in Malawi's national priorities, including the Disaster Risk Management Act (2023), the 2025 Disaster Risk Management Policy, National Resilience Strategy, and the Preparedness Plan for Food and Nutrition Security Crises and links with Malawi's NAP, NDCs and National Framework for Climate Services. It also aligns with international commitments, including the Sendai Framework, Grand Bargain, and African Union DRM Programme of Action.

Key Components of the Framework

- **Risk Analysis**: The framework prioritizes three high-frequency hazards with strong predictive and observed impact potential, agricultural drought, floods (pluvial, fluvial, and cyclone-induced), and strong winds (including those associated with cyclones). Each hazard's characteristics, exposure, vulnerability, and historical impact pathways are analyzed to guide anticipatory planning. This is complemented by an assessment of existing early warning and disaster risk reduction systems, highlighting operational strengths and gaps that influence timely anticipatory action.
- **Trigger System**: A two-tier hybrid trigger system has been adopted, combining forecast-based (Tier 1) and observational/impact-based (Tier 2) indicators. Triggers are defined using nationally and locally monitored tools and thresholds, ensuring feasibility, ownership, and timeliness. Distinct triggers are included for cyclones, floods, drought, and strong winds. The trigger system was designed pragmatically based on existing validated thresholds and expert consultations, with future technical modelling and statistical validation planned during the implementation phase.
- **Pre-Agreed Early Actions**: The NAAF presents a comprehensive repository of early actions organized by hazard and activation phase. Actions span agriculture, food security, health, WASH, education, protection, shelter, and logistics. Each action has

been screened against criteria such as timeliness, feasibility, cost-effectiveness, and inclusivity.

- **Targeting and Local Integration**: The framework defines geographic and population-level targeting approaches based on seasonal forecasts, impact projections, and operational feasibility. Community DRM structures, local authorities, and sectoral ministries are key to ensuring localized delivery and accountability.
- **Standard Operating Procedures (SOPs)**: Each sector and local authority will be supported to develop hazard-specific SOPs to translate national-level guidance into localized, step-by-step operational plans. A generic SOP template and sample SOP have been included to guide development.
- **Financing Architecture**: The NAAF distinguishes between build finance (for readiness) and fuel finance (for activation). It outlines existing and potential funding sources, including national funds, donor windows, and complementary mechanisms such as shock-sensitive social protection and parametric insurance. Triggers are explicitly linked to disbursement protocols.
- **Alignment with the National Roadmap**: The framework complements the National Anticipatory Action Roadmap (2024–2025) by providing the technical backbone for its operationalization. While the roadmap defines coordination structures and milestones, the NAAF offers triggers, actions, and protocols to translate those into practice.

Way Forward

The NAAF provides a nationally validated, operationally feasible, and system-aligned platform to scale anticipatory action across Malawi. Moving forward, key priorities include:

- Development and institutionalization of SOPs at sectoral, local authority and local levels;
- Piloting and refining triggers and early actions in high-risk areas;
- Strengthening anticipatory financing mechanisms and fund flow protocols;
- Capacity building for national, district/city and local implementation structures;
- Ongoing documentation, simulation exercises, and adaptive learning.

By embedding early warning into early action, Malawi is laying the foundation for a more proactive, inclusive, and resilient disaster risk management system, one that saves lives, protects development gains, and delivers faster, smarter responses for those most at risk.

1 Introduction

1.1 Background and Rationale

Malawi is one of the most climate-vulnerable countries in the world, with recurrent exposure to climate-induced hazards such as floods, droughts, and strong winds. Over the past decade, the country has experienced repeated humanitarian crises that have strained response systems, displaced populations, and disrupted livelihoods. Such extreme weather events are projected to increase in frequency, intensity and extent under climate change. While early warning systems have improved, humanitarian response remains largely reactive, often delayed by funding bottlenecks, logistical constraints, and coordination challenges. As a result, critical interventions frequently arrive after the worst impacts have already occurred.

Anticipatory Action (AA) presents an opportunity to shift this paradigm by enabling pre-emptive, targeted actions before a hazard fully materializes, based on credible forecasts or observed indicators. Building on global evidence and pilot experiences in Malawi (e.g., the 2021/22 dry spell AA framework), the Government of Malawi and its partners are investing in a systematized approach to AA as part of a broader shift toward risk-informed early action and resilience building. The development of a National Multi-Hazard Anticipatory Action Framework responds to growing recognition that effective disaster risk management must include mechanisms to act ahead of impact, thereby reducing loss of life, minimizing economic disruption, and preserving development gains.

This framework is timely, aligning with both national and global momentum. At the national level, it supports the operationalization of the the DRM Act (2023), National Disaster Risk Management (DRM) Policy, the National Resilience Strategy, and Malawi's Preparedness Plan for Food and Nutrition Security Crises. It is also closely aligned with Malawi's National Adaptation Plan (NAP), Nationally Determined Contributions (NDCs), and the National Framework for Climate Services (NFCS), all of which are mutually reinforcing instruments that promote proactive risk management and offer pathways for integrating anticipatory action into climate finance and sectoral adaptation programming. Internationally, it is consistent with the Sendai Framework for Disaster Risk Reduction (Priority 4: "Enhancing disaster preparedness for effective response"), as well as anticipatory action commitments under the Grand Bargain, the African Union's Programme of Action for DRM, and the historical support from financing instruments such as the Central Emergency Response Fund (CERF)[1] and the Start Fund.

The rationale for this framework is threefold:

- **First**, it strengthens coordination by guiding the use of triggers and pre-agreed early actions, offering a national reference point while allowing actors to align with their own

[1] 68 million USD was allocated by the CERF to respond to humanitarian emergencies between 2006 and 2025.

mandates and financing protocols, and thereby improving clarity, coordination, and consistency across sectors and stakeholders.

- **Second**, it enhances the timeliness and effectiveness of risk-informed interventions by linking forecasts and early warnings to predefined, pre-financed actions, thereby ensuring that critical assistance reaches affected populations before impacts escalate.
- **Third**, it strengthens national ownership by building on existing institutions, data systems, and coordination structures.

Ultimately, the NAAF provides a nationally owned and context-specific mechanism to operationalize early warning into early action, complementing existing disaster preparedness and response systems and laying the foundation for a more proactive and resilient humanitarian architecture in Malawi.

1.2 Objectives of the National Multi-Hazard Anticipatory Action Framework

The Malawi NAAF provides a strategic and operational foundation for implementing pre-emptive actions ahead of predictable hazards. The framework aims to institutionalize anticipatory action as a core component of disaster risk management in Malawi, enabling timely, coordinated, and impact-reducing interventions across sectors and levels of government.

The specific objectives of the NAAF are to:

1. **Establish a nationally led trigger system:** Define the scope of clear, evidence-based thresholds and triggers, including forecast-based, observational, and impact-based indicators. These should guide early action ahead of floods, droughts, and strong winds, aligned with national monitoring capacities and protocols.
2. **Enable timely and coordinated early actions:** Support the activation of anticipatory actions at national and local authority levels before the onset of disaster impacts, reducing response time and minimizing humanitarian consequences.
3. **Clarify institutional roles and coordination mechanisms:** Define responsibilities for all stakeholders at both national and local authority levels. At the national level, clarify the roles of mandated government ministries and departments, the Anticipatory Action Technical Working Group, and development partners. At the local level, outline the responsibilities of Local authorities, Local authority Risk Management Committees, and implementing NGOs to ensure seamless coordination under the leadership of DoDMA.
4. **Promote integration of anticipatory action into national DRM systems:** Align anticipatory action with existing DRM and climate adaptation policies, strategies, and sectoral preparedness plans, while building institutional capacity for risk-informed decision-making and early response. This includes linking the NAAF with Standard Operating Procedures (SOPs) under development for the National and District Emergency Operations Centers (NEOCs/DEOCs), to ensure operational coherence across preparedness and anticipatory action systems.
5. **Strengthen accountability, monitoring, and learning:** Lay the groundwork for standardized documentation, reporting, and evaluation of anticipatory actions, facilitating

adaptive learning, transparency, and continuous improvement of the AA system, and providing tangible evidence of the benefits of investments in preventing predictable crisis impacts. Such learning can also inform evidence-based advocacy for scaling anticipatory approaches and mobilizing institutional and financial support.

Together, these objectives contribute to a more proactive, efficient, and nationally owned disaster risk management system that shifts from crisis response to risk reduction and anticipatory preparedness.

1.3 Scope and Target Hazards

The Malawi National Multi-Hazard Anticipatory Action Framework focuses on enabling proactive, pre-agreed interventions in response to predictable, high-impact hazards that are recurrent, forecastable, and operationally manageable within the country's early warning and coordination systems.

1.3.1 Hazard Scope

Based on historical disaster trends, national risk profiles, and early stakeholder consultations, the NAAF currently targets the following three priority hazards:

1. **Floods** – including:
    - **Pluvial (flash) floods**: sudden, intense rainfall events causing surface runoff and inundation in localized areas, often associated with storm systems or cyclonic weather;
    - **Fluvial (riverine) floods**: overflow of major river systems, including the Shire, Ruo, and North/South Rukuru catchments, which may be exacerbated by upstream rainfall or tropical cyclones;

2. **Agricultural drought** – the framework focuses specifically on drought conditions that affect crop production and food security. This includes:

    - Seasonal rainfall deficits during key agricultural periods (planting, flowering, grain filling), which can reduce yields or result in complete crop failure;
    - Short-term dry spells, defined as periods of ≥10 consecutive dry days, which can cause damage even during an otherwise normal rainfall season. These are treated as early manifestations or subtypes of agricultural drought within the framework.

2. **Strong winds**[2] – recognized in Malawi's national hazard profile as a standalone hazard due to:
    - Their frequent occurrence across multiple local authorities both as part of broader storm systems (e.g., tropical cyclones) and as independent events,

[2] *Rain-induced impacts such as waterlogging and damage from "stormy rains" are covered under pluvial flood and strong wind categories and are not treated as standalone hazards in this framework*

though standalone windstorms present forecasting challenges due to shorter lead times and limited local-scale predictability;
- Their capacity to cause localized destruction to housing, crops, schools, and infrastructure;
- Their occurrence both as part of broader storm systems (e.g., tropical cyclones) and as independent events.

1.3.2 Sectors and Institutions Covered

The framework is designed for multi-hazard[3], multi-sector application and is grounded in Malawi's existing disaster risk management architecture, including the national cluster coordination system. It engages:

- **Core DRM institutions**: DoDMA, Department of Climate Change and Meteorological Services (DCCMS), Department of Water Resources (DWR), Malawi Vulnerability Assessment Committee (MVAC);
- **Sectoral agencies and clusters**: including Agriculture, (Water, Sanitation and Hygiene (WASH), Shelter, Education, Protection, Health, Nutrition, and Logistics;
- **Implementing partners**: including the Malawi Red Cross Society (MRCS), UN agencies, development partners, national, local and international humanitarian NGOs, and other institutions supporting anticipatory action in Malawi;
- **Local authority-level actors**: particularly in high-risk local authorities where triggers may be piloted or operationalized first.

1.3.3 Exclusions and Future Scope

While public health hazards (e.g., cholera outbreaks) are not formally included in the current scope, the framework acknowledges emerging discussions on their relevance for anticipatory action. These may be addressed in future iterations of the framework, subject to the availability of predictive triggers and operational readiness in the health sector.

The framework is structured to be scalable and adaptable, allowing for:

- Expansion to additional hazards;
- Broader sub-national piloting and eventual national rollout;
- Integration with climate adaptation, social protection, and development planning frameworks.

1.4 Alignment with National DRM Policies, Plans, and Institutional Mandates

[3] *In the context of this framework, "multi-hazard" refers specifically to the three prioritized hazards: agricultural drought, floods (pluvial, fluvial, and cyclone-induced), and strong winds. The framework does not currently cover geophysical, biological, or conflict-related hazards.*

The Malawi NAAF is firmly embedded within the country's evolving DRM and resilience-building landscape. It builds on national policies, strategies, and institutional structures that collectively guide preparedness, response, and recovery, and climate adaptation, while introducing a proactive and forward-looking layer of action grounded in forecast and early warning data.

1.4.1 Policy and Strategic Alignment

The NAAF aligns with the following national instruments:

- **National Disaster Risk Management Policy (2025)**: The revised DRM Policy explicitly recognizes anticipatory action as a strategic mechanism for enhancing disaster preparedness and enabling timely response. Under Policy Priority Area 4: Disaster Preparedness for Effective Response and Recovery, the policy commits to promoting early financing for timely response through anticipatory action, strengthening AA coordination structures, and integrating people-centred, impact-based early warning systems. The NAAF operationalizes these commitments by providing a national framework to guide trigger-based, pre-emptive actions across sectors and hazards.
- **Disaster Risk Management Act (2023)**: The Act provides a legal mandate for early warning systems, multi-hazard preparedness, and disaster risk reduction. Notably, it mandates the establishment of an integrated early warning system (Section 26) and calls for the development of contingency plans and simulation exercises (Sections 24 and 28), which are critical enablers of anticipatory action. While the Act does not explicitly name "anticipatory action," it defines early warning as a system that enables timely action in advance of a hazardous event, which is central to the NAAF's logic. Additionally, the Commissioner for Disaster Risk Management is mandated (Section 15) to coordinate DRM activities, implement DRM plans, and facilitate early and appropriate response, aligning with the trigger-based, pre-impact focus of this framework.
- **National Resilience Strategy (2018–2030)**: The NAAF directly supports the Strategy's objectives of reducing vulnerability to shocks, especially among smallholder farmers, and enhancing early response mechanisms through risk-informed programming.
- **Preparedness Plan for Food and Nutrition Security Crises (2025)**: This Plan positions anticipatory action as a key mechanism for mitigating food and nutrition crises, especially those triggered by droughts and floods. The NAAF builds on the same principles of risk monitoring, trigger-based activation, and pre-agreed protocols—particularly for the agricultural drought hazard—and strengthens cross-sectoral integration of anticipatory action within the broader food security ecosystem.
- **Malawi Vision 2063** and **MW2063 First 10-Year Implementation Plan (MIP-1)**: The NAAF contributes to the strategic shift toward resilience, risk-informed development, and climate adaptation articulated in national development planning instruments.
- **National Climate Change Management Policy (2016)**: While not focused solely on disaster response, the policy underscores the need for early warning systems and adaptive strategies, principles embedded within the NAAF.

- **National Adaptation Plan** (NAP): The NAAF complements the NAP's sectoral adaptation priorities, particularly in agriculture, water, and disaster risk management, by offering a concrete operational mechanism for early response to climate-related shocks.
- Updated **Nationally Determined Contributions** (NDCs): The NAAF supports Malawi's NDC commitments to strengthen early warning systems and enhance climate risk management through locally led and anticipatory approaches.
- **National Framework for Climate Services** (NFCS): The NFCS provides a foundational structure for ensuring that climate information is demand-driven, timely, and accessible to vulnerable communities and critical sectors. It prioritizes disaster risk reduction as a key area of application and includes mechanisms for inclusive communication, user feedback, and monitoring of climate services, all of which reinforce the operational aims of the NAAF.

1.4.2 Institutional Mandate Alignment

The NAAF is fully embedded within Malawi's national DRM institutional and coordination framework, and is designed to strengthen and not bypass existing structures. It builds on the following key institutional roles:

- **Department of Disaster Management Affairs (DoDMA)** leads the overall coordination and implementation of the NAAF, in line with its mandate to oversee disaster preparedness, response, and policy implementation. DoDMA co-chairs the AA TWG with a development or humanitarian partner on a rotational basis. FAO currently serves as co-chair. The AA-TWG includes a Trigger Sub-Committee, which is responsible for validating and activating of forecast-based triggers. The NEOC, hosted by DoDMA, serves as the central platform for multi-agency coordination and operational oversight during early action activation.
- **National Cluster System:** The NAAF aligns with Malawi's established humanitarian cluster approach, which facilitates multi-sector coordination. Relevant clusters are responsible for defining and implementing early actions within their sectoral mandates, supported by the leads and co-leads.
- **Technical agencies**, including the Department of Climate Change and Meteorological Services (DCCMS), Department of Water Resources (DWR), and the Malawi Vulnerability Assessment Committee (MVAC), provide the critical forecasts, observational data, and impact projections that underpin the trigger system.
- **Sectoral ministries and clusters** (e.g., Agriculture, Health, Education, WASH, Shelter) are responsible for executing early actions under the framework, based on predefined roles and in alignment with sector-specific contingency or response plans.
- **Sub-national structures**, including Local authority DRM Committees (DRMCs) and Area/Village DRM Committees (ADRMCs/VDRMCs), and Local authority Emergency Operations Centres (DEOCs), are critical for local-level implementation of anticipatory actions. The NAAF empowers these structures with pre-agreed roles and protocols aligned with local authority contingency and development plans.

- **Humanitarian partners**, **and development,** including UN agencies, HCT, national, local and international NGOs, and the MRCS, and bilateral and multilateral institutions, contribute to the implementation and technical support of anticipatory actions. Their roles span early action delivery, logistics, systems strengthening, and community-based outreach, with mandates that often bridge short-term humanitarian needs and long-term resilience building.

1.5 How to Use the National Multi-Hazard Anticipatory Action Framework

The NAAF is a practical reference tool designed to guide decision-makers, technical agencies, humanitarian actors, and sectoral stakeholders on how and when to implement anticipatory actions in Malawi. It provides a structured approach for translating forecasts and early warning signals into timely, coordinated, and cost-effective early actions before the onset of disaster impacts.

1.5.1 Who is the Framework for?

This framework is intended for use by a wide range of actors across national, local authority, and community levels. Key stakeholders include:

1.5.1.1 National-Level Institutions

- **DoDMA**: As the lead coordination agency, DoDMA uses the NAAF to convene the AA TWG, validate triggers, and issue activation decisions.
- **Technical agencies** (DCCMS, DWR, MVAC): To monitor and report on hazard indicators, support trigger verification processes, and provide technical analysis.
- **Sector ministries and clusters**: To define and implement sector-specific readiness and response actions linked to forecast and impact-based triggers.
- **Donors and financing institutions**: To align funding windows, standby facilities, and pooled resources with pre-agreed triggers and early actions, ensuring timely disbursement and activation.

1.5.1.2 Subnational and Local Stakeholders

- **Local authorities and Local DRM Committees**: To validate observations, assess local conditions, and implement context-specific early actions.

1.5.1.3 Humanitarian and Development Partners

- **Humanitarian partners**: To mobilize resources, implement pre-agreed actions, and support community-based preparedness efforts.

1.5.2 When and How to Use the Framework

Before hazard season: Identify priority hazards and sectors for early action; define roles and responsibilities through pre-positioning and SOP planning.

During early warning or forecast period: Consult Tier 1 triggers to determine readiness actions; coordinate validation meetings and preparedness activation.

When thresholds are met or exceeded: Follow trigger validation protocols (as outlined in Section 3); issue formal activation guidance and implement Tier 2 actions.
Post-event: Support documentation of lessons learned, review trigger thresholds, and update SOPs for future use.

1.5.3 What the Framework Provides

The NAAF offers:

- A reference two-tier trigger model distinguishing readiness (Tier 1) and activation (Tier 2);
- A clear validation and activation process tied to national systems;
- Hazard-specific trigger tables and thresholds (floods, agricultural droughts, strong winds) as guidance;
- Guidance on institutional roles and coordination;
- A basis for developing sector-specific SOPs, financing plans, and simulation exercises.

1.5.4 What the Framework Does Not Do

The NAAF does not replace emergency response mechanisms or conventional preparedness and scenario planning processes. Instead it is designed to complement these by enabling earlier, faster, and more targeted actions based on forecast and observational data. It does not prescribe financing arrangements, though it is designed to facilitate alignment with pre-arranged financing mechanisms.

1.5.5 Framework Review and Updating

The NAAF is intended to be an adaptive and iterative framework. As anticipatory action systems mature, including the localization of triggers, SOPs, and financing protocols, the framework will be periodically reviewed and revised under DoDMA's leadership, in consultation with the Anticipatory Action Technical Working Group and key sectoral partners. It is recommended that the framework be reviewed at least every two years, or following major climatic or policy shifts, to ensure continued relevance and effectiveness.

2 Conceptual Approach and Guiding Principles

2.1 Definition of Anticipatory Action

Anticipatory action in Malawi refers to a set of pre-agreed, forecast-based or risk-informed interventions that are implemented before the full onset or peak impacts of a predictable hazard, with the aim of reducing humanitarian impacts.
These actions are triggered by scientifically defined thresholds, whether forecast-based, observational, or impact-based, and are designed to complement existing preparedness and response mechanisms.

AA in Malawi involves:

- Acting on credible forecasts or real-time indicators to implement readiness or early response actions;
- Implementing low-cost, no-regrets measures that are efficient, effective, and justifiable even if the hazard does not fully materialize, in high-risk areas before the full onset and peak impacts of a predictable occurs;
- Mobilizing pre-positioned resources, teams, and communications based on early warning data;
- Ensuring timely, cross-sectoral coordination through pre-validated triggers and activation protocols.

2.2 Rationale for Anticipatory Action in Malawi's Context

Malawi is characterized by recurring and climate-driven disasters, particularly floods, droughts, and strong winds. These hazards have consistently led to food insecurity, displacement, infrastructure damage, and overstretched response systems, and are projected to increase in frequency and severity due to climate change. Despite progress in early warning, actual response often remains reactive, delayed by slow resource mobilization, limited pre-positioning, and lack of clarity on when and how to act in advance.

The rationale for anticipatory action in Malawi is rooted in the following realities:

1. ***High vulnerability and recurrence of hazards***: Certain local authorities are repeatedly affected by similar hazards, e.g., droughts in Balaka and Machinga, floods in Nsanje and Chikwawa, strong winds in Phalombe and Zomba—creating a predictable risk landscape.
2. ***Existing early warning capacity***: Institutions such as DCCMS, DWR, and MVAC already generate valuable early warning products and seasonal outlooks. However, these are not always linked to predefined actions or operational triggers.
3. ***Inefficiencies in reactive response***: Funding appeals and late responses often come after the most critical window for impact reduction has closed. AA enables the system to act earlier, when interventions are cheaper and more effective.

4. ***Positive pilot experiences***: Malawi has already trialed anticipatory action for previous disasters, including floods and drought/dry spells and through other actors' activities such as the MRCS, Save the Children, CARE, WFP, and FAO, demonstrating feasibility and stakeholder interest in scaling the approach.
5. ***Global and regional momentum***: Anticipatory action is being mainstreamed by donors (e.g., CERF, ECHO), regional bodies (e.g., SADC, AU), and international actors (e.g., FAO, IFRC). Malawi's adoption of this framework places it at the forefront of innovation in DRM across southern Africa.

Anticipatory action responds to both a practical need—timelier, more efficient disaster risk reduction—and a policy imperative aligned with Malawi's commitments to risk-informed development, resilience building, and climate adaptation.

2.3 Guiding Principles for Anticipatory Action in Malawi

The successful implementation of anticipatory action in Malawi requires a shared commitment to key principles that ensure actions are effective, inclusive, and accountable. These principles reflect both global good practice and Malawi's operational realities, and they serve as the foundation for the design, activation, and monitoring of all AA interventions.

The guiding principles outlined below were informed by national consultations and align with national and international frameworks, including the Sendai Framework for Disaster Risk Reduction, the Grand Bargain, and the Core Humanitarian Standard (CHS). These principles also reflect and uphold the core humanitarian values of humanity, neutrality, impartiality and independence, which guide all preparedness and response actions in Malawi.

Guiding Principle	Description / Application
People-centered and inclusive	AA must prioritize the needs and voices of the most at-risk and marginalized, including women, children, persons with disabilities, the elderly, and other vulnerable groups.
Timeliness and proactivity	The core purpose of AA is to act before disaster impact. Actions must be initiated as soon as validated triggers are met, not after losses occur.
Evidence-based and risk-informed	Triggers and early actions must be based on robust forecasts, observational data and risk analyses, including exposure and vulnerability. However, these technical inputs must be complemented by meaningful community consultation to ensure early actions are context-specific, equitable, and responsive to local needs, priorities, and knowledge.

Localization and community empowerment	AA planning and implementation must build on local knowledge, capacities, and structures such as DRMCs at local authority, area, and village levels. Communities must be meaningfully engaged at all stages.
Accountability to affected populations	Clear communication, transparency, and feedback mechanisms must be embedded to ensure AA responds to community needs and preferences.
Do no harm and conflict sensitivity	All actions must be carefully designed to avoid reinforcing inequalities, creating dependency, or exacerbating tensions in fragile settings.
Multi-sectoral coordination and integration	AA must cut across sectors (e.g., health, agriculture, protection) and work through existing humanitarian and government coordination systems.
Environmental sustainability and resilience	Actions should aim to preserve natural ecosystems and build long-term adaptive capacities wherever possible.
Transparency and predictability	Activation protocols and financing mechanisms must be clearly defined, predictable, and transparent to all stakeholders.
Learning and adaptability	Continuous learning, monitoring, evaluation, and flexible planning are essential for improving AA performance over time.
No-regrets action	Early actions should be taken based on reliable forecasts and triggers, even if the full impact does not materialize, recognizing that the cost of inaction is often higher than the cost of acting early.

These principles should guide both the design of anticipatory actions and the development of SOPs across sectors. They are also intended to inform capacity-building, community engagement, and accountability mechanisms throughout the AA lifecycle.

2.4 Theory of Change for Anticipatory Action in Malawi

The Theory of Change (ToC) for Malawi's National Multi-Hazard Anticipatory Action Framework illustrates how the integration of pre-agreed, risk-informed early actions, triggered by forecasts and real-time indicators, enhances disaster preparedness, reduces humanitarian impacts, and strengthens long-term resilience. It reflects the national ambition to move from

reactive crisis response toward a proactive, coordinated, and inclusive risk management system.

2.4.1 Narrative Overview

If Malawi strengthens its institutional coordination, defines credible hazard triggers, pre-agrees sector-specific actions, and mobilizes timely financing, **then** it can act before hazard impacts occur, saving lives, protecting livelihoods, and reducing the cost of response. This shift relies on:

- Effective use of forecasts and observational data;
- Locally grounded planning and implementation;
- Strong government and partner coordination; and
- Scalable and sustainable financing approaches.

2.4.2 Theory of Change – Logic Pathway

Element	Description
Inputs	• Climate forecasts and early warnings (DCCMS) • River and drought monitoring systems (DWR, MVAC) • Community-based vulnerability and capacity assessments (e.g., CBDRM, VCA) • Household Economy Analysis (HEA) data as coordinated by MVAC • Institutional coordination structures (DoDMA, AA TWG) • Technical expertise and sectoral planning support • Pre-arranged financing mechanisms and logistics capacity
Activities	• Characterize hazards, assess vulnerabilities and exposures, and monitor evolving risk using early warning information and analysis • Develop and validate hazard-specific triggers for floods, agricultural droughts, and strong winds • Define and institutionalize early actions and SOPs across sectors • Convene technical validation meetings when triggers are met • Coordinate and implement anticipatory actions at national and local authority levels • Monitor implementation and document lessons for adaptive learning
Outputs	• Operational two-tier trigger system in place (Tier 1: readiness; Tier 2: activation) • Cluster SOPs defined and disseminated • Institutional roles and coordination structures clarified • Pre-positioned resources and readiness measures activated where applicable
Outcomes	• Timely, predictable, and coordinated implementation of anticipatory actions • Shortened response time between early warning and action • Strengthened sectoral and local authority-level preparedness

	● Greater institutional confidence in forecasts and AA mechanisms
Impact	● Reduced loss of life, livelihoods, and infrastructure ● More cost-efficient humanitarian response ● Enhanced national resilience and institutionalization of risk-informed, proactive disaster management

3 Risk Analysis for Priority Hazards

The prioritization of agricultural drought, floods, and strong winds in Malawi's NAAF is informed by a structured risk analysis aligned with international best practices. This analysis is based on the three interlinked components of risk: hazard, exposure, and vulnerability. In the context of anticipatory action, a fourth element, historical impacts and impact pathways, is also critical to understanding how hazards materialize into humanitarian consequences and what types of early action are most relevant.

This risk analysis draws on historical disaster impact data, meteorological and hydrological trends and climate projections, national risk profiles (including MVAC's HEA reference years), and local experience to inform the selection of hazards and shape the design of forecast-based triggers and anticipatory actions. Risk profiles are not static; the framework encourages periodic updates to hazard, exposure, and vulnerability data to reflect evolving climate patterns and socio-economic conditions.

3.1 Agricultural Drought Risk

3.1.1 Hazard Characteristics

Agricultural drought in Malawi is primarily driven by insufficient seasonal rainfall, delayed onset or early cessation of rains, and short-term dry spells that coincide with critical stages in staple crop development, particularly for maize, rice, groundnuts, and legumes. These crops dominate smallholder farming systems, which support over 80% of Malawians, and are highly sensitive to moisture stress. Unlike meteorological drought, agricultural drought is defined by its impact on soil moisture and crop performance rather than rainfall volume alone.

Such events typically develop gradually but can cause severe damage when dry spells align with key crop growth phases such as germination, flowering, or grain-filling. In Malawi, dry spells often last between 10 and 21 consecutive days without effective rainfall and are especially damaging during the mid-season. When these dry conditions persist or recur within a growing season, they may culminate in full agricultural drought, often compounded by heat stress during critical crop development stages.

Local authorities in the Southern and Central Regions, including Balaka, Nsanje, Chikwawa, Phalombe, Machinga, Salima, Dedza, Mangochi, and Ntcheu, are particularly prone to high rainfall variability. For example, in December 2021, parts of Balaka, Machinga, and Dedza recorded over 100 mm of rainfall over a 10-day period, followed by a prolonged dry spell that negatively affected maize and groundnut yields.

Climate projections developed by DCCMS using CMIP6 models show a rising trend in the frequency, duration, and severity of droughts across all Agricultural Development Divisions (ADDs) through 2080. Under the high-emission SSP5.85 scenario, drought duration may increase by up to two months in areas such as Kasungu and Salima, significantly heightening risks to rainfed agriculture. In parallel, rising temperatures under both mid-range and high-

emission pathways are expected to elevate evapotranspiration, intensifying soil moisture stress and amplifying the agricultural impacts of dry spells.

Historical rainfall records also indicate increasing unpredictability over time. Since the early 2000s, Malawi has experienced more frequent moderate to severe droughts, notably during the 2004–05, 2011–12, and 2015–16 seasons, characterized by delayed rainfall onset, erratic distribution, and prolonged dry spells in southern and central local authorities.

Agricultural drought was selected as a priority hazard due to its recurrence and widespread impact on livelihoods. It was noted as the most commonly experienced drought type in Malawi and has historically been the primary driver of humanitarian need during dry seasons. In this context, “widespread and recurrent impact” refers to repeated crop failures, food insecurity, and market disruptions affecting multiple livelihood zones over successive seasons. While meteorological or hydrological droughts may also occur, they tend to trigger major humanitarian consequences primarily when they reduce agricultural output. Focusing on agricultural drought therefore provides the most actionable and feasible entry point for anticipatory interventions. The 2024 *National Risk Profile Atlas* confirms that agricultural drought remains the most spatially widespread slow-onset hazard affecting Malawi, driven by variable intra-seasonal rainfall and prolonged dry spells that particularly disrupt maize and groundnut production.

While this Framework currently focuses on agricultural drought, discussions during the stakeholder validation process raised the possibility of expanding scope to encompass broader drought types, such as meteorological or hydrological drought. However, no consensus was reached. Technical agencies, particularly DCCMS, emphasized that agricultural drought remains the most operationally feasible and impactful entry point for anticipatory action in Malawi, given its direct link to food security, existing monitoring systems, and historical implementation experience. The NAAF therefore retains its targeted focus on agricultural drought, while remaining open to future expansion as capacities evolve.

3.1.2 Exposure

Agricultural drought affects a wide cross-section of the Malawian population, with over 80 percent of households relying on rainfed subsistence farming as their primary source of food and income. Maize, the country’s staple crop, is particularly vulnerable to moisture stress, especially during the flowering and grain-filling phases. Geographic exposure is highest in local authorities with limited access to irrigation, shallow or degraded soils, and hilly terrain that reduces moisture retention.

Livelihood zones such as the Lower Shire, Middle Shire, and the Lake Chilwa-Phalombe Plain are consistently exposed to seasonal water deficits. These areas regularly experience below-average crop yields during dry years, putting pressure on household food security and regional grain markets. Limited food availability in affected local authorities often leads to localized price spikes, market instability, and increased reliance on external food assistance. In years of widespread drought, these localized effects can ripple across national food supply

chains, undermining economic stability and access to affordable staple commodities for both rural and urban households.

The Standardized Precipitation Index for 6 months (SPI-6), modelled at a 25-year return period, highlights geographic hotspots of agricultural drought risk under current and projected climate scenarios.

- Current conditions already show moderate to high drought severity concentrated in southern and parts of central Malawi, particularly in Nsanje, Chikwawa, Phalombe, Mulanje, Salima, and surrounding local authorities.
- Under an optimistic climate scenario, drought severity increases across much of the south and central regions, expanding exposure zones and intensifying risk in local authorities that previously faced only moderate droughts.
- Under a pessimistic climate scenario, large swathes of the central and southern regions shift into high to very high drought severity categories, indicating more frequent and intense drought episodes, with serious implications for rainfed agriculture and food security.

These projections validate the prioritization of agricultural drought within the NAAF and reinforce the need for anticipatory interventions in southern and central local authorities, where projected increases in drought severity will likely outpace current coping capacities.

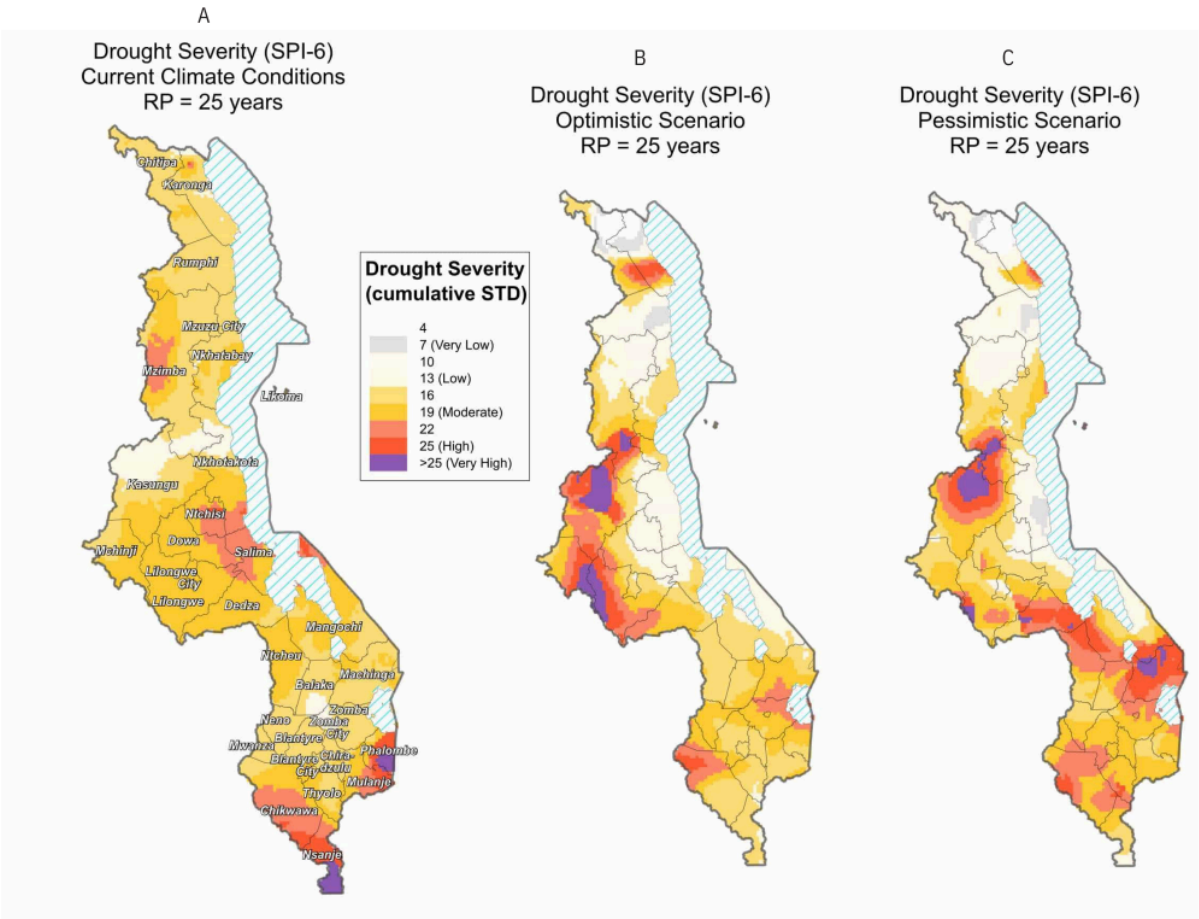


Figure 1: Drought severity under current and future climate conditions

Source: DoDMA (2024, p. 37) [4]

The food insecurity frequency map (Figure 1), based on MVAC assessments from 2005 to 2024, shows that Balaka, Chikwawa, and Nsanje experienced food insecurity in all 20 of the past 20 assessment years. Phalombe and Blantyre followed closely, with 18 occurrences each. This trend shows the chronic nature of food insecurity in these local authorities, justifying their prioritization for anticipatory drought action. In contrast, local authorities like Nkhata Bay were affected in only 9 of the 20 years, the lowest among non-urban local authorities5. While food insecurity is influenced by multiple factors, the geographic overlap between high food insecurity frequency and moderate to very high drought severity zones identified in the Malawi Multi-

[4] DoDMA (2024). *Malawi Multi-Hazard Risk Atlas*

[5] **Note:** Urban centres (Lilongwe City, Blantyre City, Mzuzu City, and Zomba City), as well as Likoma District, were not systematically assessed by MVAC until 2020. Since then, however, all four cities have reported food-insecure populations in each annual assessment between 2020 and 2024, indicating growing urban vulnerability that may require expanded focus in future frameworks.

hazard Risk Atlas (2024) suggests that recurrent agricultural drought plays a significant contributing role in these areas.

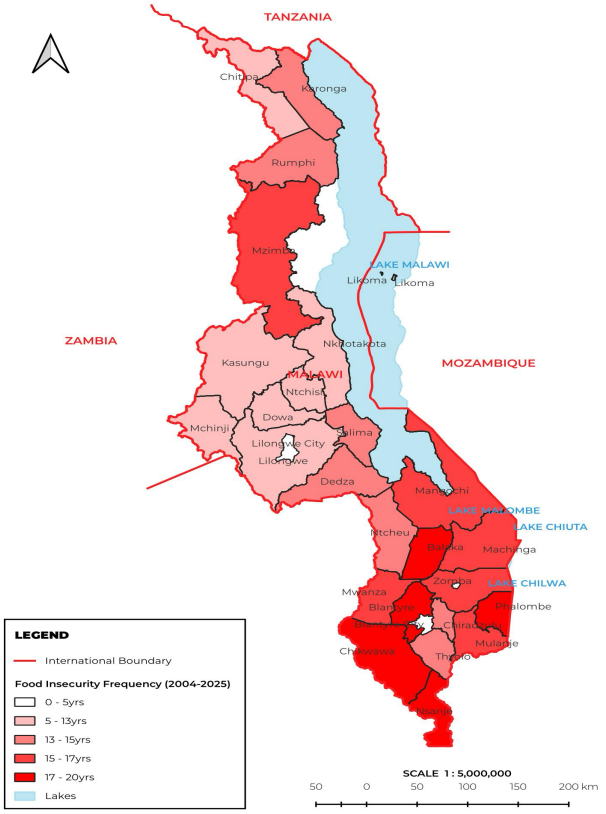


Figure 1: Frequency of food insecurity occurrences by local authority in Malawi (2004–2025).

Data Source: MVAC/OCHA

3.1.3 Vulnerability

The vulnerability of farming households to agricultural drought is shaped by a combination of socioeconomic, institutional, and environmental factors. High poverty levels, limited use of agricultural inputs, and reliance on a single annual growing season reduce the adaptive capacity of smallholder farmers to cope with rainfall variability. Vulnerable groups, including female-headed households, elderly farmers, and persons with disabilities, face additional challenges in accessing credit, extension services, and drought-tolerant seed varieties.

Figure 2 presents the average percentage of the population affected by food insecurity in each local authority over the past 20 years, based on MVAC's initial seasonal assessments and 2018 census data. Many Southern and lakeshore local authorities, including Nsanje, Neno, Chikwawa, Thyolo, and Blantyre, show that more than 23% of the populations have been consistently affected by food insecurity. These high-impact zones closely align with agricultural drought hotspots in both current and projected scenarios presented in the national risk atlas,

indicating a strong convergence of exposure and vulnerability. Although food insecurity may arise from multiple shocks, the alignment between these chronic impact zones and areas of high drought risk strengthens the case for anticipatory action in southern and central Malawi.

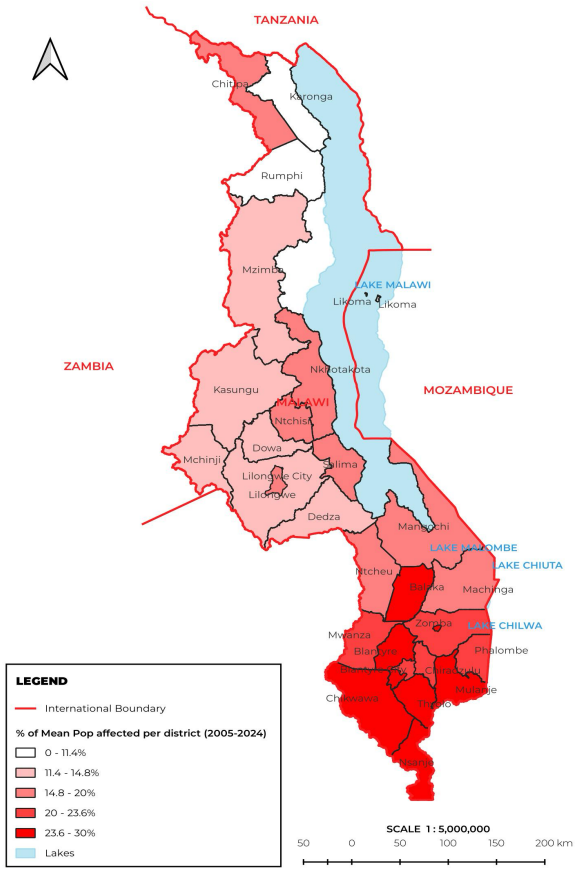


Figure 2: Average percentage of population affected by food insecurity per local authority (2005–2024)
Data Source: MVAC/OCHA

Adaptive agricultural practices remain limited in scale. While traditional knowledge of seasonal trends is widespread, it is often insufficient when not integrated with scientific seasonal forecasts. Similarly, early warning information may not be adequately translated into actionable advice at the community level, further compounding vulnerability.

3.1.4 Historical Impacts and Impact Pathways

Malawi has a long history of droughts with severe humanitarian consequences. Notable drought years include 1991–92, 2001-02, 2004-05, 2011-12, 2015–16, 2021–22, and 2023-24. The 2015–16 El Niño-driven drought led to a declaration of state of disaster and affected an estimated 6.7 million people and led to large-scale crop failure and food insecurity. The 2021–

22 season saw extensive dry spells in Southern and Central Malawi, resulting in poor germination, wilting of crops, and significant production deficits in multiple local authorities. In March 2024, a state of disaster was declared by the President in response to food insecurity caused by El Niño, with projections indicating that 5.7 million people would need assistance during the 2024/2025 consumption season.

The most common impact pathway begins with below-normal rainfall at the onset of the season, followed by dry spells that reduce germination and limit crop growth. This leads to lower household food production, increased dependency on markets, and rising food prices. In some cases, it triggers the need for emergency food distributions or social protection interventions.

Impacts often cascade beyond agriculture. Drought-related crop losses undermine income, increase malnutrition (particularly among children and pregnant women), and place stress on school attendance, health systems, and informal labour markets. Recovery from such droughts is slow, especially in communities without access to irrigation or input subsidies.

Given these trends, anticipatory actions for agricultural drought must focus on early mobilization—particularly before or during the planting season—and include pre-emptive measures such as early seed distribution, soil moisture conservation, and nutrition support to vulnerable groups. The slow-onset nature of drought also offers a unique window for readiness actions informed by seasonal forecasts and validated observational data.

3.2 Flood Risk (Pluvial, Fluvial, and Cyclone-Induced)

3.2.1 Hazard Characteristics

Flooding is one of the most recurrent and destructive hazards in Malawi, occurring in both fluvial (riverine) and pluvial (flash) forms. Fluvial floods typically result from the overflow of major rivers, including the Shire, Ruo, Phalombe, Thuchila, Mwanza, Bwanje, Lifidzi, and North/South Rukuru systems, often following sustained upstream rainfall. These events are particularly damaging in lowland areas where floodwaters accumulate and persist. Due to their gradual onset, fluvial floods generally have longer lead times, allowing greater potential for anticipatory action such as evacuation, livestock movement, and pre-positioning of supplies.

Pluvial floods, on the other hand, are caused by intense local rainfall that exceeds the absorptive capacity of soils and drainage systems, leading to surface runoff and sudden inundation. These floods are short-lived but highly localized, posing significant challenges for early action, especially in urban and peri-urban areas or steep terrain with degraded vegetation. While Malawi's Flash Flood Guidance System provides an early warning mechanism for such events, their rapid onset and limited lead time still constrain the effectiveness of anticipatory action, necessitating localized monitoring and swift response protocols.

Recent high-resolution rainfall hazard mapping (Figure 2) shows that flash flood risk is already substantial in many local authorities, particularly in Nkhatabay, Phalombe, parts of

Chikwawa, and peri-urban Lilongwe. These risks are projected to increase under both optimistic and pessimistic climate scenarios, with more intense 12-hour rainfall events and wider geographic coverage. This reinforces the need for anticipatory actions that are tailored to short-duration rainfall extremes, especially in poorly drained urban areas and hilly rural terrain.

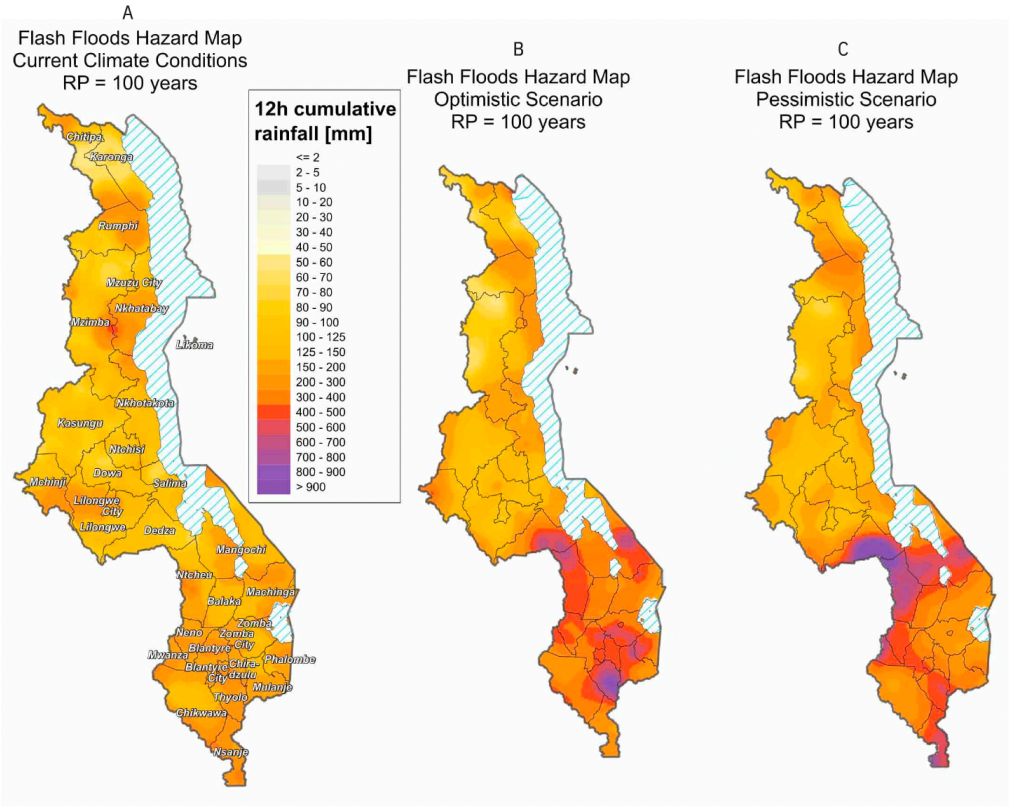


Figure 2: Flash hazard maps for a 100-year return period (RP) in the present and projected climate conditions: A) current; B) optimistic; C) pessimistic

Source: DoDMA (2024, p. 31)

Available disaster records from DoDMA and EM-DAT indicate that Malawi has experienced at least 35 major flood events between 2000 and 2025, with at least one significant event almost every year. These floods cumulatively affected over 3.5 million people and killed 576, with spikes observed in years like 2001, 2015, 2019, and 2024. The frequency and total affected population have shown a rising trend, suggesting increasing severity and recurrence.

This escalation is linked to both environmental and anthropogenic drivers, including deforestation, settlement expansion into floodplains, land degradation, and erratic rainfall patterns associated with climate change.

Cyclones and tropical storms—such as Tropical Cyclone Idai (2019), Tropical Storm Ana and Cyclone Gombe (2022), Freddy (2023), and Jude (2024)—have further exacerbated flood risks. These storms bring prolonged and widespread rainfall, overwhelming natural and

built drainage systems and triggering both fluvial and pluvial flooding across multiple local authorities. Climate projections suggest that extreme rainfall events are likely to increase, heightening flood risks and challenging traditional early warning systems.

Climate projections for Malawi, as reported by the World Bank Climate Change Knowledge Portal, indicate a potential increase in both seasonal precipitation and intensity of single-day rainfall events, particularly under higher emission scenarios. Between 2040 and 2059, models show a projected increase of up to 31–33 mm in the largest one-day rainfall totals during the wet season (DJF), and consistent increases across all Shared Socioeconomic Pathways (SSPs). These shifts suggest an elevated risk of more intense, sudden-onset flood events. Combined with land degradation and rapid urbanization, these trends reinforce the urgency of anticipatory action and localized flood risk planning.

3.2.2 Exposure

Flood risk in Malawi is concentrated in several highly exposed local authorities, including Nsanje, Chikwawa, Phalombe, Zomba, Salima, Karonga, and Lilongwe city and Mzuzu city. These local authorities host a combined population of over 4 million people, many of whom live in low-lying floodplains, along riverbanks, or in areas with poor drainage. Children, the elderly, persons with disabilities, and female-headed households are among the most vulnerable, often residing in structures that lack adequate protection or access to early evacuation.

Recent spatial analysis from Malawi's 2024 National Risk Atlas highlights significant local authority-level variation in flood exposure. Figure 3 shows that floodable land constitutes over 6% of the total local authority area in Nsanje, Chikwawa, Phalombe, and parts of Mangochi and Salima, making these areas particularly vulnerable. Pie charts further reveal that even under optimistic climate scenarios, flood-prone areas are expected to expand, especially in the Southern Region. This projected expansion, evident in both rural and peri-urban zones, reinforces the importance of localized anticipatory actions that address both current and emerging exposure trends.

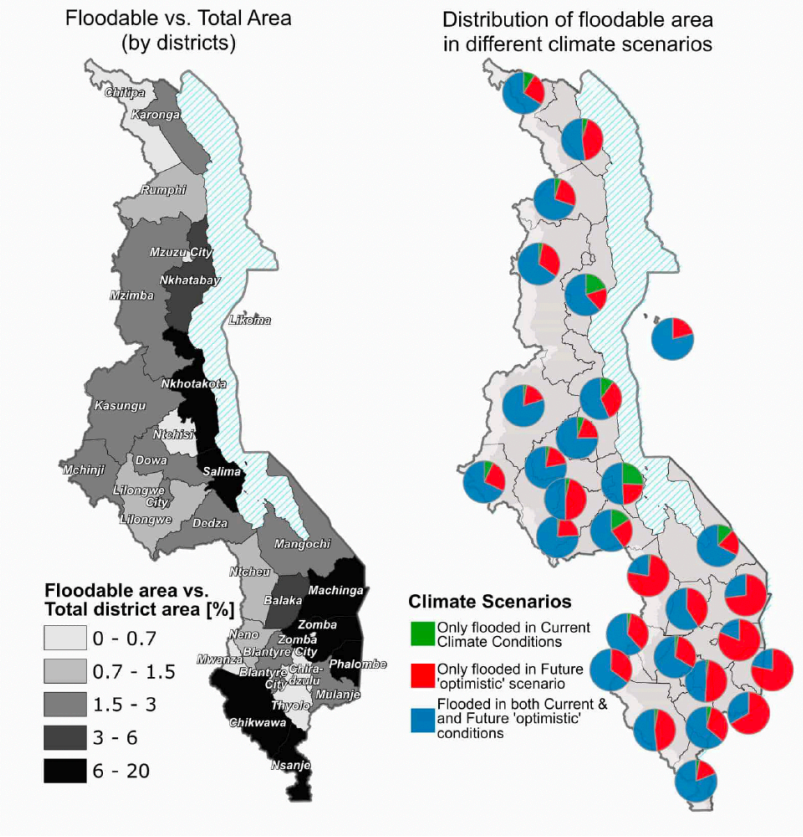


Figure 3: Percentage of each local authority's area that is prone to river floods (darker colours mean more flood-prone areas). The pie charts for each local authority break down the flood-prone areas into three categories: areas that will stay flood-prone under both current

(Source, DoDMA (2024, p. 30)

Box 1: Most Frequently Flood-Affected Local authorities in Malawi (2000–2025)

Based on national disaster records and EM-DAT data, several local authorities have been affected by major flood events repeatedly over the last two decades. These hotspots represent areas of persistent exposure and should be prioritized for anticipatory action planning, localized early warning, and pre-positioning of supplies.

- **High-Frequency Exposure (>20 events)**: Chikwawa, Nsanje
- **Moderate-Frequency Exposure (10–20 events):** Mangochi, Phalombe, Machinga, Zomba, Salima
- **Notable Recurrence (5–10 events)**: Dedza, Karonga, Nkhotakota, Blantyre, Mulanje

These trends underscore the need for tailored flood triggers, reinforced local authority SOPs, and stronger sub-national capacity in these local authorities.

Poor urban planning significantly amplifies flood exposure, particularly in towns and cities where informal settlements are located in wetlands, along stream banks, or near stormwater channels. Structures in these areas are often poorly constructed and lack basic infrastructure such as paved roads, solid waste management systems, or engineered drainage, resulting in recurrent surface flooding during intense rainfall events.

In rural flood-prone areas such as the Lower Shire Valley and the Lake Chilwa–Phalombe Plain, exposure is compounded by the presence of fertile but low-lying farmland. Here, rainfed maize, rice, and horticultural crops are frequently cultivated in proximity to rivers and swamps, increasing the risk of crop loss during both fluvial and pluvial flood events. These zones also support dense concentrations of rural populations whose livelihoods depend almost entirely on agricultural production, heightening their vulnerability to flood-related disruptions.

Critical infrastructure, including bridges, roads, health facilities, houses and school blocks, is also disproportionately located in these high-exposure areas, further increasing systemic risks and complicating emergency response and recovery efforts.

3.2.3 Vulnerability

Communities in flood-prone areas are often among the poorest in the country, residing in informal housing made of unburnt bricks, grass thatch, and mud walls. These structures are easily damaged or destroyed by floodwaters. Flood early warning systems are in place in some local authorities but are not universally accessible, particularly to vulnerable populations such as persons with disabilities, elderly individuals, and those living in isolated rural areas.

Evacuation capacity remains limited, with few designated safe shelters, lack of transport, and weak coordination mechanisms at the local level. In urban settings, inadequate solid waste management contributes to drainage blockages, increasing the risk of urban flash floods. Flooding also often results in contamination of water sources, leading to waterborne disease outbreaks such as cholera, particularly in displaced communities. In many cases, schools are used as makeshift evacuation sites during floods, disrupting learning and denying children access to safe and continuous education. Anticipatory planning should aim to minimize such disruptions by identifying and preparing alternative evacuation shelters.

3.2.4 Historical Impacts and Impact Pathways

Malawi has experienced multiple large-scale flood disasters over the past decade. The 2015 floods affected over 230,000 people and displaced nearly 70,000. In 2022, Tropical Storm Ana caused flooding across 17 local authorities, affecting more than 900,000 people and resulting in widespread infrastructure damage, school closures, and food insecurity. Cyclone Freddy in 2023 caused catastrophic flooding and landslides, particularly in southern Malawi, leading to more than 697 fatalities, 659,287 displacements, and 537 people still missing and presumed dead.

Flood impacts often manifest as:

- Loss of life and injury, particularly during flash floods and cyclones;
- Destruction of homes, roads, and bridges, cutting off communities;
- Damage to standing crops and food reserves, undermining food security;
- School closures, disrupted healthcare delivery and access to education, and outbreaks of cholera and malaria.

Flooding typically results in multi-sectoral emergencies that often trigger large-scale national or international humanitarian response, frequently classified as Level 2 or Level 3 events under global humanitarian coordination systems. These responses, coordinated by DoDMA and humanitarian partners, often arrive after the peak of the disaster, when lives, assets, and infrastructure have already been lost. While early warning systems for floods exist, their effectiveness in recent events, such as Cyclones Ana and Freddy, has been mixed, with gaps in timeliness, coverage, and localized dissemination still affecting response outcomes.

Anticipatory actions for floods must therefore focus on readiness at the community level, pre-positioning of relief items, and temporary reinforcement of infrastructure. In the case of pluvial flooding, anticipatory actions must also consider highly localized early warnings and promote the co-development of inclusive alert systems through linkage with existing local and community-based mechanisms. These should include coordination with the Flash Flood Guidance system operated by DCCMS. All systems should be regularly reviewed for their reach, use, and effectiveness to enable continuous service improvements.

3.3 Strong Wind Risk (Including Cyclone-Induced Windstorms)

3.3.1 Hazard Characteristics

Strong winds are an underrecognized but frequently occurring hazard in Malawi. They manifest both as standalone local windstorms and as part of broader tropical weather systems such as cyclones. Localized strong wind events typically occur during the transition between rainy and dry seasons, while cyclone-induced windstorms accompany major weather events like Tropical Storm Ana (2022), Cyclone Freddy (2023) and Cyclone Chido (2024).

Unlike floods and droughts, strong wind events are often short-lived and highly localized but cause significant damage, especially to poorly constructed infrastructure and exposed agricultural fields. Sustained winds or gusts exceeding 60–70 km/h can uproot trees, unroof houses, destroy school buildings, and flatten maize crops in the field.

Wind hazard modelling conducted in the 2024 National Risk Atlas reinforces the prioritization of strong winds in Malawi's National Multi-Hazard Anticipatory Action Framework. Using downscaled wind speed data and return period analysis, the Atlas provides spatial estimates of wind hazard at 2 km resolution. Under current climate conditions, the most intense winds, reaching 12–14 m/s (approximately 43–50 km/h), are observed in the northern region along the Lake Malawi shoreline, with additional high-risk zones in central local authorities such as Kasungu, Dowa, and Lilongwe.

The pessimistic climate scenario projects an expansion of these wind hazard zones, with rising intensity particularly in the northern and central regions, suggesting that stronger and more destructive winds may become more frequent under climate change. Even under the optimistic scenario, wind intensities remain significant in central Malawi.

These projections align with field observations and historical reports of recurrent wind damage to homes, schools, and crops in local authorities like Phalombe, Zomba, Mulanje, Neno, and Mwanza. While not always visible at national scale, the localized impact, high frequency, and low preparedness justify the inclusion of strong winds in AA planning. The feasibility of early action, such as pre-positioning roofing materials or issuing school-based

alerts, makes this hazard particularly well-suited to short-lead AA interventions.

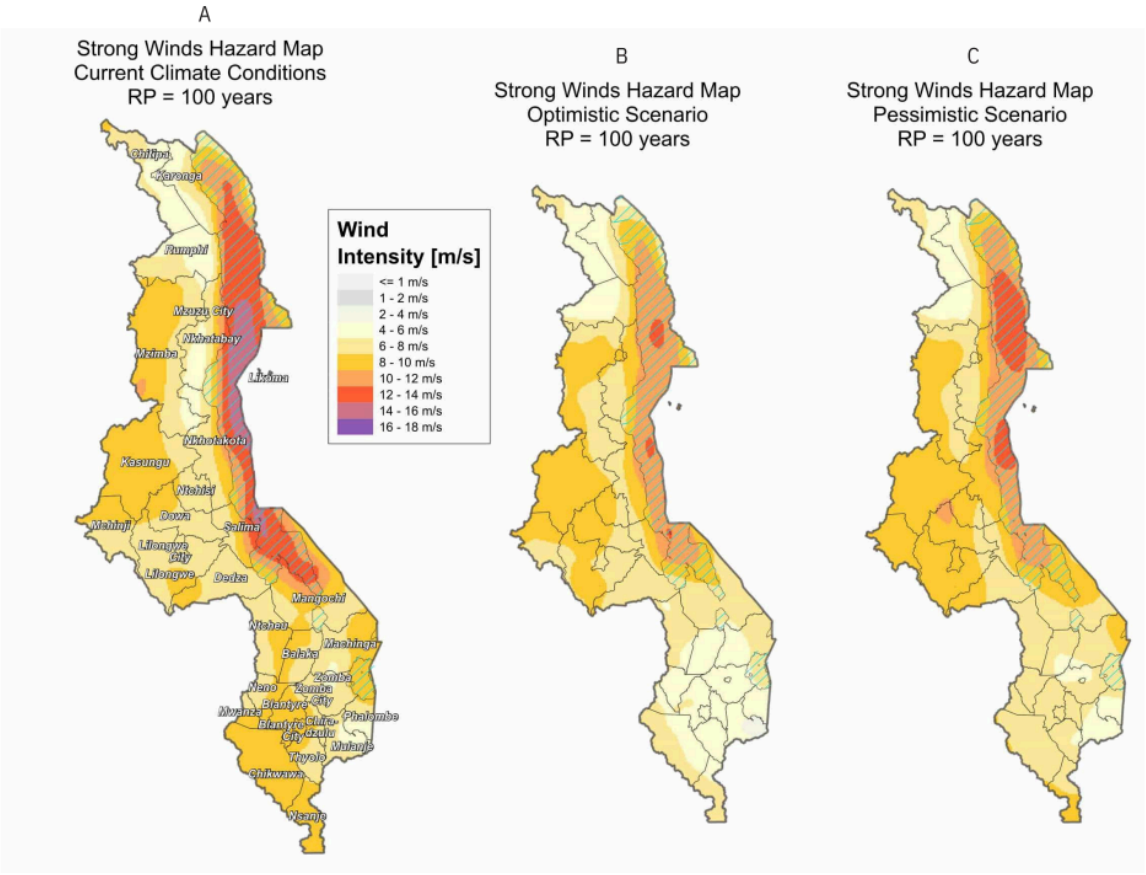


Figure 4: Hazard maps for strong winds for 100 years return period (RP) in the present and projected climate conditions: A) current; B) optimistic; C) pessimistic.

Source: DoDMA (2024, p. 33)

3.3.2 Exposure

Populations in both rural and peri-urban settings are widely exposed to strong winds, particularly in local authorities such as Phalombe, Zomba, Mulanje, Chiradzulu, Mwanza, and Neno. These areas frequently report damage to roofs, school blocks, crops, and markets following windstorms.

Disaster Risk Profiles from DoDMA and past event records indicate that thousands of homes, schools, health facilities, and critical infrastructure, including power lines and roads, are regularly exposed to strong winds, particularly in local authorities along cyclone paths. These profiles provide a robust basis for identifying high-risk areas and guiding anticipatory planning and localized preparedness.

In the agricultural sector, exposed fields, especially maize at flowering or tasseling stage, are highly susceptible to lodging due to strong gusts. Tree crops such as bananas and papayas, commonly grown around homesteads, are also easily damaged.

3.3.3 Vulnerability

Vulnerability to strong winds in Malawi stems from both physical and institutional challenges. Although the National Construction Industry Act empowers the National Construction Industry Council (NCIC) to regulate and promote safety standards in construction, enforcement of building standards, particularly those relevant to wind resilience, remains limited in rural and peri-urban areas. Most buildings in these areas are constructed using low-cost, non-durable materials such as mud bricks, thatch, unreinforced timber, and thin galvanized iron roofing sheets, which offer minimal resistance to strong wind events.

In many high-risk local authorities, schools and health facilities are especially vulnerable due to lightweight roofing structures, lack of structural reinforcement, poor maintenance, and limited adherence to recommended infrastructure lifespans. Community preparedness is also limited, with few wind-specific awareness campaigns or structural mitigation measures (e.g., roof tie-downs, safe rooms, or vegetative windbreaks) widely implemented. While some post-cyclone recovery programs have introduced safer construction practices, these remain localized and are not yet institutionalized or scaled nationwide.

Children attending schools with poorly constructed roofs face heightened risks during windstorms, often resulting in prolonged disruptions to education. Similarly, households living in traditional dwellings lack the financial and technical capacity to retrofit homes or relocate temporarily during hazardous events. Access to insurance or formal recovery support for wind-related losses remains rare, compounding the vulnerability and prolonging recovery for affected populations.

3.3.4 Historical Impacts and Impact Pathways

Strong wind events are a near-annual occurrence in many parts of Malawi, often resulting in significant but localized damage. While long-term risk reduction measures—such as improved building codes and resilient shelter designs—are critical to addressing the root causes of vulnerability, anticipatory action can still play a valuable role in mitigating immediate impacts when high winds are forecasted. For example, during Tropical Storm Ana, and Cyclones Chido and Freddy, strong winds caused extensive damage to shelters and displaced populations, even in areas not severely flooded. Early protective actions, such as securing roofing materials or relocating vulnerable households, could reduce these impacts significantly.

Common impact pathways include:

- Destruction of roofing materials on homes, schools, and health centers;
- Damage to crops (lodging, breakage of stalks, or fruit loss);
- Injuries and deaths from falling debris or collapsing structures;

- Service disruptions due to damage to power lines, roads, and water systems.

While precise estimates of economic losses from strong wind events are not yet available, their recurring and widespread impact on housing, agriculture, education, and basic services suggest substantial and compounding costs to affected communities. Although forecasting destructive wind events presents challenges, particularly at longer lead times, historical patterns and cyclone tracking provide a basis for short-term early warning, especially when linked to seasonal forecasts during cyclone-prone months. These recurring damages, while often localized and less visible than those from floods or droughts, contribute to prolonged recovery times, especially in low-income local authorities. Given their frequency and cumulative toll, strong wind events warrant inclusion in anticipatory action planning, with a focus on low-cost, pre-impact interventions such as shelter reinforcement, roof securing, targeted early warnings for schools and public infrastructure, and crop stabilization support.

3.4 Risk Prioritization and Implications for Anticipatory Action

The selection of hazards addressed in this National Multi-Hazard Anticipatory Action Framework is grounded in a structured analysis of risk, drawing on the characteristics, exposure patterns, vulnerabilities, and historical impacts associated with each hazard. The inclusion of agricultural drought, floods (fluvial, pluvial, and cyclone-induced), and strong winds (including those caused by tropical storms and cyclones) reflects their recurrence, severity, and operational relevance to anticipatory action in Malawi.

3.4.1 Rationale for Hazard Prioritization

Each hazard was prioritized based on the following criteria:

- Frequency and severity of past impacts;
- Forecastability and the availability of observational or impact-based data;
- Operational feasibility of early action, i.e., can something be done ahead of time?;
- Alignment with institutional mandates and national early warning systems;
- Geographic concentration of exposure and relevance to humanitarian, development, and climate adaptation programming and investments.

A summary of hazard prioritization is presented in Table 1 below:

Table 1: Summary of hazard prioritization

Hazard	Justification for Inclusion
Agricultural Drought	High frequency; widespread food security impacts; clear seasonal forecast windows; feasible early agricultural actions.
Floods (pluvial, fluvial, cyclone-induced)	High-impact and recurrent hazard with multiple forms of onset; includes riverine floods with longer lead times, sudden-onset flash floods, and cyclone-driven inundation.; strong link to mortality,

	displacement, and infrastructure damage; flood forecasting and gauge data available.
Strong Winds	Underrecognized but high-frequency hazard; localized but recurring infrastructure damage; early warning possible; low-cost readiness actions viable.

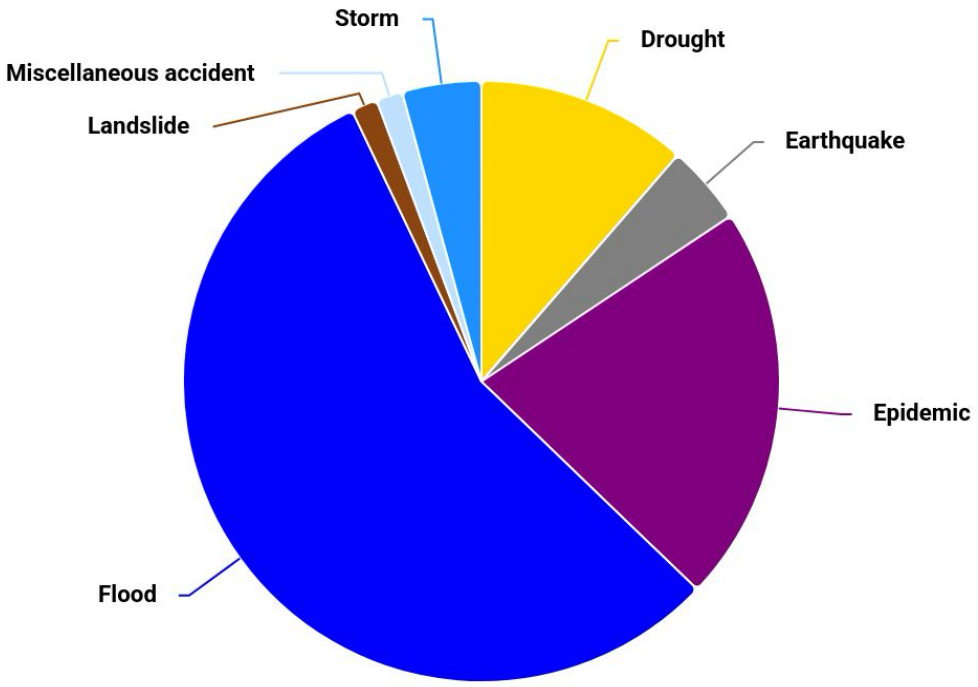


Figure 3: Average Annual Natural Hazard Occurrence in Malawi (1980–2020)
Source: World Bank Climate Change Knowledge Portal (2025)

According to data from the World Bank Climate Change Knowledge Portal (Fig. 1), floods constitute the most frequently occurring natural hazard in Malawi, followed by epidemics, droughts, and storms. In this dataset, the “storm” category is understood to represent strong wind events, including localized windstorms and those induced by cyclones, aligning with their prioritization in this framework. The chart reflects hazard occurrence trends between 1980 and 2020, reinforcing the rationale behind focusing on floods, agricultural drought, and strong winds in this first phase of anticipatory action.

By contrast, hazards such as landslides, earthquakes, extreme heat, or other low-frequency events were not prioritized due to limited forecasting capability, lack of pre-established early action pathways, or insufficient trigger design data. However, the framework is designed to be scalable and adaptable, allowing for the inclusion of additional hazards in future phases.

3.4.2 Implications for Trigger Design and Early Actions

The risk analysis directly informs the development of:

- Hazard-specific triggers, which reflect localized thresholds of risk based on historical impacts and forecast capacity;
- Pre-agreed early actions, designed to intervene before humanitarian consequences materialize;
- Targeting strategies, which focus efforts in the most at-risk local authorities and populations;
- Coordination structures, which ensure appropriate institutional engagement and response.

This prioritization also supports a phased rollout approach, starting with high-risk local authorities and expanding nationally over time. Expansion will be accompanied by periodic review and adaptation of the framework to ensure relevance, effectiveness, and integration with evolving capacities and lessons learned.

3.5 Assessment of Early Warning Systems and DRR Mechanisms for Anticipatory Action

Effective anticipatory action depends on the availability, reliability, and functionality of early warning systems (EWS) and disaster risk reduction (DRR) mechanisms. DWR oversees riverine (fluvial) flood forecasting using gauge networks and hydrological models, while DCCMS leads on flash flood alerts through the FFGS, supported by rainfall monitoring and forecasting. Early warning capacities in Malawi span multiple hazards, with operational systems in place for floods, droughts, and strong winds, including those linked to cyclones and tropical storms. While significant progress has been made, especially in seasonal forecasting and institutional coordination, important gaps remain. Early warning systems do not consistently reach all at-risk groups or lead to timely and anticipatory actions across the three hazards prioritized under this Framework.

3.5.1 Flood Early Warning

Flood early warning in Malawi is jointly led by the Department of Water Resources (DWR) and the Department of Climate Change and Meteorological Services (DCCMS), in line with their respective mandates. Together, they provide fluvial flood forecasts (using river gauge networks and hydrological models), rainfall monitoring, and, more recently, flash flood alerts through the Flash Flood Guidance System (FFGS). Forecast lead times vary from 3–5 days for riverine floods to as little as 6 hours for flash floods.

While national capacity for flood forecasting is improving, several operational gaps persist:

- Monitoring station coverage is uneven, with limited automated systems and a high rate of non-functional stations due to vandalism or lack of maintenance.
- Dissemination channels to local authorities and communities remain weak or inconsistent.
- Trigger linkage to anticipatory actions is still under development in many sectors.

DWR emphasize the critical role of community-based early warning systems (CB-EWS), which include both manual and automated approaches. For automated systems to be effective, the downstream village typically needs to be situated at least 10–12 kilometres from the upstream gauge location. Manual systems rely on gauge readers using mobile phones to relay warning messages, though this is often hindered by lack of airtime. DWR has engaged the Malawi Communication Regulatory Authority (MACRA) on the possibility of subsidizing communication costs for gauge readers, though this is yet to be finalized. Additionally, the National Water Resources Authority is exploring the provision of honorariums as a motivation mechanism for gauge readers.

While the framework prioritizes national forecasting systems led by DCCMS and DWR for operational decision-making, seasonal forecasts and monthly updates, particularly those indicating elevated rainfall probabilities, can play a complementary role in raising awareness and supporting preparedness. External sources such as WMO, IRI, and SAWS may be triangulated where relevant, but anticipatory actions are primarily based on data sources and analysis mechanisms that are accessible, understood, and usable by national and local institutions.

3.5.2 Drought Early Warning

Drought early warning is primarily based on seasonal and sub-seasonal forecasts, supported by rainfall anomalies and indices such as the Standardized Precipitation Index (SPI). Customization of the Standardized Precipitation Index (SPI) for Malawi's drought monitoring needs has been discussed among stakeholders but has not yet progressed, mainly due to technical capacity limitations. Forecasts are issued by DCCMS, while the Malawi Vulnerability Assessment Committee (MVAC) provides impact-based assessments that combine climatic, agricultural, and socio-economic indicators . These are especially important for estimating food insecurity in drought-affected areas.

However, the effectiveness of drought EWS is constrained by:

- Reliance on donor-funded analysis and limited institutional capacity to sustain frequent assessments.
- Limited uptake of early warnings at the community level, due to a combination of factors such as limited access to resources (e.g., drought-tolerant seeds, irrigation), weak institutional support to translate forecasts into timely advice or inputs, and a perception that early warnings are not consistently actionable or reliable.
- Delayed translation of risk information into pre-season mobilization of early actions, including in agriculture and social protection sectors.

While station-based rainfall monitoring remains the backbone of drought early warning in Malawi, stakeholders have noted challenges arising from the sparse distribution of rain gauge stations and localized rainfall variability. For example, rainfall may be recorded at a gauge station while surrounding farming areas receive little to none. To address this, future

refinements may include blended approaches using satellite-derived rainfall data (e.g., CHIRPS), interpolated via Thiessen polygons linked to station data. Additionally, there is a need to harmonize the operational definition of a “dry day.” While the World Meteorological Organization (WMO) defines this as <1 mm of rainfall, some experts suggest a more context-relevant threshold of <5 mm for agricultural purposes, especially when considering evapotranspiration and soil characteristics. However, such refinements will require further technical assessment and institutional agreement to ensure feasibility and consistency across actors. While tools such as TAMSAT and TAMSAT-ALERT may offer complementary satellite-derived data and seasonal drought forecasts to support national systems, the primary basis for drought early warning remains national forecasts (DCCMS), MVAC assessments, and operational indices that are institutionally understood and technically actionable within Malawi’s decision-making systems.

3.5.3 Strong Wind and Cyclone Early Warning

Strong winds, both from seasonal storms and tropical cyclones, are becoming more frequent and damaging in Malawi, yet EWS for wind remains underdeveloped. DCCMS issues advisories for high winds and cyclones, typically with 2–5 days of lead time for regional events. However:

- Real-time monitoring systems for wind are sparse, and data is often unavailable at local scale.
- Wind thresholds for anticipatory action have not been nationally validated.
- Cyclones, which often originate in the Indian Ocean and make landfall in Mozambique, bring both intense rainfall and high winds, but are still primarily treated as flood triggers.

Local and sectoral systems, such as school safety protocols or public infrastructure protection plans, are not consistently activated in response to wind advisories. Coordination with local authorities and clear SOPs for wind-related anticipatory actions remain weak or nonexistent in most local authorities.

To improve cyclone preparedness and wind-related early warning, it is important to track bulletins from the Regional Specialized Meteorological Centre (RSMC) in Réunion, which provides authoritative tropical cyclone forecasts for the South-West Indian Ocean. Drawing on both national forecasts and regional sources, such as RSMC Réunion, SAWS, or SADC's climate services, can strengthen triangulation and support earlier action in the case of cyclonic systems.

3.5.4 Forecast Accuracy and Lead Times

Forecast skill in Malawi varies by hazard:

- Seasonal forecasts for floods and droughts carry an estimated average accuracy of around 60%, according to DCCMS, though confidence is lower for sub-national targeting.

- Cyclone forecasts and associated rainfall projections generally offer 3–5 days of lead time, sufficient for Tier 1 actions.
- Forecasting for flash floods and strong winds has improved in recent years through tools such as the FFGS and enhanced meteorological modeling by DCCMS

Overall, confidence in DCCMS forecasts has increased significantly, with local authority-level stakeholders during NAAF consultations reporting trust levels of up to 80% across multiple hazards. However, even where forecasts exist, weak coordination, limited local authority capacity, and a lack of SOPs continue to delay or prevent anticipatory response.

3.5.5 System Functionality and Infrastructure Challenges

Early warning systems in Malawi include both automated and manual components across meteorological and hydrological networks. Some key systems are currently functional and in use, particularly for major rivers in the Lake Malawi and Shire River Basins through the ODSS, and select automated weather stations operated by DCCMS. While many automated systems are non-functional, notable exceptions include the operational FFGS run by DCCMS, which provides localized alerts for small basins with lead times of up to 6 hours, though this system too requires ongoing investment in maintenance, training, and SOP alignment. Community alert mechanisms in certain local authorities have also supported seasonal preparedness and evacuation in recent years.

However, these systems face significant infrastructure and sustainability challenges:

- Many automated systems operated by DCCMS are non-functional due to vandalism, limited maintenance budgets, and lack of data airtime. Nearly half reportedly do not transmit data reliably.
- Community-based EWS, installed by DWR, DoDMA, and partners, often fail due to poor maintenance, limited spare parts, weak local engagement, and vandalism.
- DWR's reliance on manual gauge readers is challenged by staffing and motivation issues, leading to delays in data flow. Automation is underway but still partial.
- Impact-based flood forecasts have been piloted in North and South Rukuru basins (with 72-hour lead times) and in Blantyre, but broader rollout is constrained by finances, limited accuracy and geographic coverage.
- Theft of equipment, especially batteries from DPC houses and river stations, continues to undermine automated monitoring efforts.
- The majority of EWS infrastructure is donor-funded, raising long-term sustainability concerns.

3.5.6 Institutional Coordination and Analysis Gaps

An effective anticipatory action system depends on strong institutional coordination across forecasting, early warning, decision-making, and early action delivery. Ideally, this coordination is achieved through harmonized roles among key technical and coordination bodies, including the Early Warning Systems Sub-Committee (EWSSC), the Anticipatory Action Technical Working Group (AA TWG), and the Malawi Vulnerability Assessment Committee (MVAC), under the strategic guidance of DoDMA.

Currently, the Early Warning Systems Sub-Committee, led by DCCMS and co-led by DWR, is mandated to strengthen forecast harmonization, dissemination, and preparedness coordination. However, its functionality remains limited due to infrequent convening, low domestic funding, and challenges with technical capacity and sustained engagement. While the AA TWG has emerged as a more active forum for early action planning, linkages between these two structures are still weak. Both are coordinated by DoDMA and should ideally reinforce one another to support seamless integration of early warnings into anticipatory action triggers and SOPs.

MVAC provides crucial seasonal impact-based analysis for food insecurity and drought risk. Yet, its operations remain largely donor-funded, with insufficient national budget allocations for assessments, data management, and scenario modeling. The recent exit of FEWS NET has also left a technical gap in integrated drought early warning.

Several structural challenges further affect coordination:

- Fragmented mandates and poor horizontal coordination across institutions;
- Weak vertical integration between national, local authority, and community structures;
- Limited engagement of clusters and DRM platforms in anticipatory planning beyond routine training;
- Low domestic ownership, with anticipatory action still perceived by some stakeholders as an externally driven initiative.

While donor funding has supported key advances, including AA pilots and early warning infrastructure, over-reliance on external resources has overshadowed the need for long-term domestic investment. Other critical issues, such as vandalism of infrastructure, inadequate follow-up on training, and low policy visibility, must also be addressed to ensure functional and sustainable coordination mechanisms.

4 Triggers System and Activation Protocol

4.1 Introduction

To operationalize anticipatory action in Malawi, the framework recommends a two-tier hybrid trigger system informed by global best practice, Malawi's prior anticipatory action experience, and validated or emerging national triggers.

The system combines three types of triggers, forecast-based, observational, and impact-based, across two activation tiers:

i. **Tier 1: Forecast-informed readiness triggers:** This tier initiates early, low-cost, no-regret actions across multiple sectors based on forecast-based and impact-based triggers. These actions aim to position supplies, alert communities, prepare frontline responders, and deliver no-regret actions.
ii. **Tier 2: Observational and impact-confirmed activation triggers:** This tier focuses on targeted, cost-intensive actions triggered once the hazard is confirmed through observational or predicted peak impact data, such as recorded crop loss, population displacements, rising river levels, or confirmed infrastructure damage. These actions occur just before or at the onset of peak impact to be effective.

This approach was selected based on the following rationale:

- It balances uncertainty and action, allowing early preparedness while minimizing the risk of false alarms.
- It aligns with Malawi's operational capacities, using only tools and indicators monitored by national agencies.
- It supports cross-sector coordination, enabling readiness across sectors at Tier 1 and more targeted responses at Tier 2.
- It builds on validated national experience, incorporating triggers tested in past dry spell and flood pilots, and introduces emerging triggers for strong winds based on observed impacts and DCCMS capacity.
- It recognizes cyclones and storms as multi-hazard drivers that contribute to both flooding and strong winds, enabling tailored early actions for wind damage, shelter, and agricultural protection under the respective hazard components.
- It is scalable and flexible, with potential for piloting in high-risk local authorities and phased national rollout.

This tiered trigger model forms the core operational logic of Malawi's National Multi-Hazard Anticipatory Action Framework, ensuring that actions are timely, appropriate, and grounded in context-specific evidence.

4.2 Design Principles

The trigger system was developed through a nationally led process and is grounded in what is realistic, feasible, and applicable within Malawi's institutional, technical, and operational context. While it draws on global and regional frameworks (e.g., IFRC, OCHA, WMO), these

served as reference points rather than prescriptive models. Triggers were recommended based on their actual usage by national agencies, existing monitoring capacity, and the availability and reliability of data within Malawi. This approach ensures national ownership, operational sustainability, and a high degree of contextual relevance.

While only tools, thresholds, and indicators currently monitored and applied by national institutions in Malawi are formally included in the framework, global and regional systems (e.g., GloFAS, ARC2, ECMWF, CHIRPS, NDVI) may be used as supplementary reference points to enhance triangulation and early signal detection where institutional capacity allows. Future inclusion of automated alerts and satellite-derived tools will depend on national validation and uptake by responsible agencies..

4.3 Trigger-Setting Methodology

The trigger-setting process for Malawi's National Multi-Hazard Anticipatory Action Framework was developed through a consultative, evidence-based, and nationally led process. It involved a systematic review of existing forecasting and monitoring systems, validation of nationally used thresholds, and alignment with institutional mandates. Historical analysis (e.g., rainfall thresholds, dry spell patterns) and prior pilot experiences (e.g., MRCS sEAP, OCHA 2021/22 dry spell AA framework) informed the choice of indicators. Technical consultations with DCCMS, DWR, MVAC, DoDMA, and implementing partners helped ensure that recommended triggers are realistic, applicable, and operationally feasible within Malawi's early warning and disaster risk management architecture. Global and regional reference tools (e.g., IFRC, OCHA, WMO frameworks) were consulted but only adopted where aligned with local capacity and systems.

While the current framework does not yet formalize the use of local/community observations as standalone triggers, it recognizes the importance of establishing localized thresholds over time to enable community-based anticipatory action. Local knowledge and farmer-reported indicators can serve as valuable inputs to validate forecasts or assess readiness conditions, particularly when linked to national early warning systems. In line with the principles of the NAAF, localization is a long-term goal and should guide future refinement of the trigger system. The framework encourages implementing partners to document these local indicators and collaborate with research institutions to support validation (ground-truthing) and eventual integration.

Initial trigger thresholds for strong winds are exploratory and based on existing DCCMS advisories. Further technical consultations and historical impact analysis will be required to validate these indicators and expand implementation.

Although this framework does not prescribe standalone sector-specific triggers at this stage, each trigger is designed to activate sectoral readiness and response actions through the AA SOPs. Further work is planned under the implementation phase to identify thresholds or contextual indicators that may support early activation for specific sectors. In addition, each sector or cluster will nominate a technical lead to work with DoDMA and DCCMS during trigger

validation and activation. This will help ensure timely interpretation of forecasts and contextual relevance of early actions.

4.3.1 Limitations and Future Scope

While this framework draws on prior pilots, expert consultations, and historical review, no formal backend statistical analysis (e.g. hit rates, false alarm rates, impact correlation modelling) was conducted to derive or validate trigger thresholds. Instead, thresholds were adapted from triggers already validated and in operational use by national actors, including DCCMS, DoDMA, MRCS, WFP, and OCHA, and were validated through multi-stakeholder discussions during the April–June 2025 development period. This pragmatic approach enabled a timely and nationally grounded framework. However, future refinement should include deeper technical validation of return periods and trigger performance, especially for dry spells and wind hazards. Collaboration with DCCMS, MVAC, and technical partners (e.g. WFP, academia) is encouraged to enhance robustness while maintaining practicality and national ownership.

4.3.2 Return Period Considerations

In line with international good practice, return periods were considered during the design of selected triggers, particularly for floods and agricultural drought, to balance actionability with sustainability. For instance, flood triggers correspond approximately to a 1-in-100 year return period for major rivers in Malawi, based on historical river gauge data from the DWR and the Water Resources Regulations of 2018. While this return period represents a low-probability but high-impact event, its use reflects a nationally agreed threshold for flood risk classification and ensures consistency with existing hydrological planning standards. However, the National NAAF allows for complementary early actions to be activated under more frequent flood scenarios, such as localized or pluvial floods, based on forecast-based or observational thresholds, particularly at Tier 1. Moreover it is important to ensure regular review of return periods and thresholds with extreme weather events increasing under climate change.

For agricultural drought, return periods are more variable but rainfall anomalies of ≥30% below normal, sustained over 2–3 dekads, often reflect conditions associated with 1-in-3 year drought events in vulnerable agro-ecological zones.

Return periods were not applied rigidly as activation thresholds, but rather used to guide trigger calibration, frequency expectations, and financing considerations. For strong winds, due to limited historical impact data and forecasting resolution, return periods were not formally defined but may be explored in future through improved documentation and modeling.

4.4 Trigger Types Defined

4.4.1 Forecast-Based Triggers

Forecast-based triggers rely on predictive data from DCCMS, which provides seasonal and short-term rainfall forecasts forming the operational basis for action. Forecasts from regional systems may be consulted where relevant, but national bulletins remain the primary source for trigger determination.

Applied in Malawi for:

- **Pluvial floods:** Rainfall forecast of ≥100–150mm within 72 hours in specific catchments
- **Fluvial floods:** depends on the water level in rivers especially those that approach the 1-in-100 year flood line in major rivers
- **Cyclones:** Forecast of cyclone landfall with rainfall ≥100mm in flood-prone local authorities
- **Agricultural Drought:** Seasonal rainfall anomaly ≥30% below normal over key sub-seasonal periods (e.g., October, November, December [OND] or November, December, January [NDJ]), based on national climatological outlooks and rainfall forecasts (45–75 days lead time) (45–75 days lead time)
- **Strong winds**: Forecasted sustained winds ≥45–60 km/h in ≥2 local authorities

These triggers initiate Tier 1 readiness actions.

Purpose: Provide advance warning and early readiness lead time

Limitation: Risk of false activation; appropriate only for low-cost, no-regrets[6] interventions.

Note: In Malawi, cyclones are not treated solely as rainfall-driven flood events. While they are embedded within the flood trigger structure, their wind-related impacts are also recognized under the strong wind hazard profile and reflected in readiness actions for shelter, agriculture, and critical infrastructure protection.

4.4.2 Observational Triggers

These triggers are activated based on real-time or near-real-time monitoring from established data sources, such as DWR river gauge stations and DCCMS rainfall observations.

Used in Malawi for:

- **Floods (fluvial):** River gauge readings exceed alert stage in ≥2 stations in priority rivers[7]
- **Drought/Dry Spells:** Confirmed dry spell in ≥2 local authorities with ≥10 consecutive dry days[8]

[6] In this framework, the term “no-regrets” refers to anticipatory actions that are relatively low-cost, reversible, and justifiable even if the forecasted hazard does not fully materialize. Such actions help mitigate risk without significant downside, particularly in sectors where delayed response could lead to missed opportunities (e.g., agriculture).

[7] Includes Shire, Mwanza, Likangala, Thondwe, Domasi, Phalombe, Linthipe, North Rukuru and South Rukuru. To be updated with details being compiled by DWR, for the full list and thresholds

[8] For operational purposes, a ‘dry day’ refers to a day with less than 5mm of rainfall, recognizing that cumulative moisture availability, rather than isolated readings, affects crop performance.

- **Strong Winds**: Field reports or automated stations (where available) indicating sustained winds or gusts exceeding safe thresholds in exposed local authorities. (*Note: These are not yet formal Tier 2 triggers but may support validation of wind warnings issued by DCCMS and sectoral situational awareness*).

These trigger Tier 2 activation for cost-intensive actions once hazard onset is confirmed.

Purpose: Validate hazard onset to justify higher-cost activation

Limitation: Shorter lead time; actions must precede or coincide with peak impact

4.4.3 Impact-Based Triggers

These triggers estimate the humanitarian impact of a hazard, based on projections or overlays of hazard data with exposure and vulnerability indicators.

Used in Malawi for:

- **Floods:** Fluvial inundation model projecting ≥30% of households in flood-risk zones
- **Drought:** MVAC or IPC projections showing ≥25% of households in Phase 2+ (stressed) or above; APES Round 3 estimates indicating a ≥20% reduction in maize production compared to the five-year average in drought-prone local authorities.
- **Strong Winds:** Field assessments or secondary data indicating ≥25% of households with partial roof damage or crop loss in affected zones (***Note: Currently exploratory. Could support Tier 2 validation for targeted sectoral response (e.g., shelter kits, replanting support).***

Impact-based triggers are used in both Tier 1 (to prioritize readiness zones) and Tier 2 (to confirm/validate scale and scope of response).

Purpose: Enhance targeting, reduce misallocation

Limitation: Depend on availability of validated impact and exposure datasets. While impact-based triggers enhance targeting, their utility is contingent on the availability of reliable exposure and impact data. In Malawi, such datasets are currently limited or not routinely collected in real time. As such, these triggers are used cautiously and may be complemented by field assessments where feasible.

4.5 Integration of Flash Floods (Pluvial Flooding) in the Trigger System

Flash flooding caused by intense rainfall (pluvial flooding) presents unique challenges for anticipatory action in Malawi, particularly due to limited observation infrastructure and short lead times. However, Malawi's DCCMS has recently developed a Flash Flood Guidance System which enables sub-national alerts with lead times of up to 6 hours for small river basins and flood-prone communities.

Given this capability, pluvial flooding is included under Tier 1 of the trigger model, allowing for forecast-informed readiness actions such as early warning dissemination, school or market closures, search and rescue team activation, and evacuation messaging.

Due to the limited capacity for observational confirmation of pluvial floods before impact, Tier 2 activation triggers are not currently feasible for this hazard. However, the framework recommends:

- Continuous refinement of the FFGS.
- Pre-agreed SOPs for flash flood hotspots.
- Investment in community-based alert and evacuation systems.

4.6 Operational Considerations for Strong Wind Triggers

While strong winds have been included as a priority hazard within this framework, several operational considerations affect their integration into the trigger system.

Most strong wind events in Malawi are localized, short-lived, and occur with high frequency, often annually in the same local authorities. While these events do not typically reach the scale of cyclones or major floods, they cause recurrent damage to housing, schools, crops, and infrastructure. This return period of 1:1 year underscores the need for routine anticipatory readiness, even if such events may not always justify full Tier 2 activation.

At present, Malawi lacks validated national thresholds for wind-related impacts and does not yet have a robust network of automated weather stations capable of detecting localized gusts with high spatial precision. Most wind advisories from DCCMS are issued at regional or local authority scale, which limits their utility for highly targeted anticipatory action.

Furthermore, there is no standardized methodology for post-event verification of wind-related damage, which constrains the reliability of observational or impact-based triggers.

As such, wind-related triggers in this framework are considered exploratory. They should be refined through:

- Pilot testing in high-risk local authorities
- Documentation of localized wind impacts
- Collaboration with DCCMS on forecast resolution and early warning protocols
- Development of SOPs for sector-specific no-regrets actions (e.g., school closures, crop protection, shelter reinforcement)

This approach allows for progressive operationalization while acknowledging both the importance and limitations of incorporating strong winds into the national anticipatory action system. This includes wind impacts from both localized storm systems and larger-scale weather events such as tropical storms and cyclones, which may or may not be accompanied by significant rainfall.

4.7 Trigger Design Cheat Sheet

Table 2, Table 3, and Table 4 summarize the triggers approved under Malawi's National Multi-Hazard Anticipatory Action Framework for floods, drought, and strong winds, respectively, including the type of trigger (forecast-based, observational, or impact-based), specific trigger statement or indicator, lead times, intended sectoral use, and responsible institutions. It distinguishes between Tier 1 (forecast-informed readiness) and Tier 2 (observational/impact-confirmed activation) triggers for all three hazard types. All trigger indicators included here are currently in use, monitored, or validated by national institutions in Malawi, or are recommended for future validation based on national capacity.

Each trigger listed below represents an independent pathway for early action. Triggers are not cumulative: activation can proceed if any one of the defined indicators is met, provided institutional verification confirms its validity. This multi-entry system enhances responsiveness, especially where certain data sources are delayed or unavailable.

In addition to the Tier 1 and Tier 2 triggers summarized in the tables, the framework recognizes the role of "**soft**" pre-season forecast triggers for floods and strong winds. These are not activation triggers per se, but signal elevated risk and prompt pre-season preparedness actions such as updating SOPs, stock pre-positioning, and public awareness. Examples include:

- Above-normal rainfall forecast by DCCMS in flood-prone local authorities for the October–March season.
- Seasonal cyclone forecast indicating higher-than-average tropical storm activity in the southwest Indian Ocean.
- Increased frequency of local thunderstorm days or convective activity in regional forecasts for strong wind-prone districts.

Table 2: Flood Trigger Summary Table

Tier	Trigger Type	Trigger Statement	Lead Time	Phase	Clusters/Sectors Activated	Responsible Agency(ies) and Data Products	Notes
Tier 1 – Forecast-Informed Readiness	Forecast-Based (Pluvial)	Rainfall forecast of ≥100–150mm within 72 hours in catchments (Shire, Lake Chilwa, Linthipe, North and South Rukuru)	3–5 days	Readiness	WASH, Shelter, Education, Transport & Logistics, Protection, DRM Coordination, Communication	DCCMS - National ensemble forecasts	Linked to MRCS sEAP and 10-year catchment-level analysis; already nationally validated. Catchment-specific thresholds: 100mm for Shire River Basin, Linthipe, Rifidzi, North and South Rukuru; 150mm for Lake Chilwa Basin; Threshold corresponds approximately to a 1-in-2 to 1-in-5 year flood event based on catchment-level historical analysis by

							DWR and MRCS. Forecast skill is moderate (based on DCCMS seasonal performance reports). MRCS hindcast testing confirms that the 100–150 mm rainfall threshold would have enabled activation during major pluvial flood events such as Cyclones Freddy (2023) and Ana (2022). For example, stations like Bvumbwe, Chichiri, Masambanjati, Thyolo, and Naminjiwa recorded more than 150 mm of rainfall within 24–48 hours

							during Cyclone Freddy.
Tier 1 – Forecast-Informed Readiness	Forecast-Based (Cyclone)	Cyclone forecast with projected landfall and rainfall ≥100mm within a 24-hour period in flood-prone local authorities	3–5 days	Readiness	WASH, Shelter, Education, Transport & Logistics, Protection, DRM Coordination, Communication	DCCMS (regional satellite inputs + internal forecast bulletins)	Cyclones as rainfall drivers for pluvial flooding; Trigger combines cyclone alerts with rainfall thresholds. Forecast skill is relatively high for landfall timing/direction (based on historical DCCMS + RSMC Reunion alignment). Threshold levels exceeded in Cyclones Ana (2022), Freddy (2023), and Gombe (2022), validating relevance. Estimated return period: variable, but often 1-in-2 to 1-in-4 years for impactful systems.

Tier 1 – Forecast-Informed Readiness	Impact-Based (Pluvial)	Rainfall forecast + exposure overlay affecting ≥30% of at-risk households	3–5 days	Readiness	WASH, Protection, Shelter, Education, Food Security, Communication	DCCMS, DoDMA ((rainfall forecast + local authority exposure maps from DoDMA risk profiles))	Used where local authority-level flood risk overlays or impact models exist. Can help target readiness when spatial exposure exceeds thresholds. Forecast skill is moderate at local authority scale; risk overlays updated in 2022–2024 DRM profiling. Applied retrospectively for Freddy and Ana; aligned with observed displacement patterns. Return period varies by locality and exposure model assumptions.
Tier 2 – Observationa	Observational (Riverine)	River gauge	Real-time	Activation	Shelter, WASH,	DWR (real-time river gauge	Confirms fluvial flooding

l and Activation		exceeds flood alert stage (1-in-100 year flood line) in ≥2 stations in priority rivers			Health, Transport & Logistics, Search & Rescue	monitoring from ODSS; gauge-specific alert levels)	in progress. Thresholds based on historic peak flows and return periods from DWR hydrological data. Used operationally in Shire, Ruo, Linthipe, and Rukuru basins. Return period: approx. 1-in-100 year flood line per basin calibration. Events like 2015 and 2023 triggered similar levels in ≥2 stations.
Tier 2 – Observational and Activation	Impact-Based (Fluvial)	Inundation model projection showing ≥30% of households in flood-risk zones affected	2–5 days	Activation	Shelter, Food Security, Protection, Nutrition	DWR, DoDMA (local flood models and exposure overlays from DRM risk profiles)	Applied only where modeled inundation layers are validated (e.g., Blantyre pilot, North/South Rukuru). Helps visualize likely impacts alongside observed

							gauge exceedance. Return period estimation possible if model linked to historical peak flow events. Align with 2015 and 2022 impacts in pilot local authorities.

Table 3: Drought Trigger Summary Table[9]

Tier	Trigger Type	Trigger Statement	Lead Time	Phase	Clusters /Sectors Activated	Responsible Agency(ies) and Data Products	Notes
Tier 1 – Forecast-Informed Readiness	Forecast-Based	Seasonal rainfall anomaly ≥30% below normal projected	45–75 days	Readiness	Agriculture, Food Security, Nutrition, Education,	DCCMS (National Seasonal Forecasts (OND, NDJ), SPI	Based on national climatological outlooks issued by DCCMS. Sub-seasonal anomalies (OND,

[9] *Trigger thresholds presented in this framework prioritize feasibility, timeliness, and alignment with existing national systems. However, as noted by OCHA, it is acknowledged that the severity and impact of dry spells are highly influenced by their timing within the agricultural calendar (e.g., during planting or early growth stages). This framework does not yet incorporate compound stressors such as concurrent heatwaves or soil moisture deficits, which may exacerbate drought impacts. Future iterations may explore integrating these additional parameters, alongside more localized and crop-specific sensitivity assessments, to improve trigger precision and contextual relevance.*

		over a sub-seasonal period (e.g., OND, NDJ) in highly exposed local authority or SPI ≤ –0.68 over NDJ or January, February, March - JFM period in drought-prone local authorities.			DRM Coordination	monitoring – NDJ/JFM)	NDJ, etc.) offer a more practical forecasting timescale than dekads and are used to anticipate early signs of agricultural drought during the planting or early crop development phases. These anomalies typically correspond to drought conditions with a return period of approximately once every 3 years in drought-prone local authorities. Forecast skill: ~60% accuracy (DCCMS past forecast validation). SPI thresholds (≤ –0.68) drawn from WFP trigger prototypes may offer improved predictive value in some local authorities. Use depends on data availability and technical support.

Tier 2 – Observational and Activation	Observational	Confirmed dry spell in ≥2 local authorities with ≥10 consecutive dry days	Real-time	Activation	Agriculture, Food Security, WASH	DCCMS (Station rainfall monitoring)	Validated under the 2021/22 NAAF pilot and based on DCCMS real-time station monitoring. However, a subsequent QA review (2022) noted weak historical correlation with drought impacts, a high false alarm rate, and low statistical significance due to limited observed events. While retained due to national familiarity and feasibility of real-time application, the trigger should be refined in future iterations, potentially integrating locally adapted SPI indicators, community-reported stress signals, or predictive models such as HEA. Prototype SPI-

							based dry spell triggers by WFP offer promise but are currently limited to specific local authorities and may require external technical and financial support to scale nationally.
Tier 2 – Observational and Activation	Impact-Based	MVAC or IPC projection: ≥25% households in Phase 2+ (stressed) and above	3–4 months (between June MVAC report and Oct–Nov lean season start)	Activation	Food Security, Nutrition, Health, Protection	MVAC (PC and outcome analysis based on HEA inputs)	Used for triangulation with meteorological and crop monitoring data. Reflects multi-causal food insecurity, including drought, floods, market access, and other stressors. HEA inputs are embedded within MVAC analysis, and Outcome Analysis can provide predictive insight on timing, severity, and location-specific livelihood impacts, helping inform early activation of anticipatory actions. NDVI and similar vegetation indices are

							currently not integrated into national early warning systems and are excluded from this framework. Hindcast from 2023–2025 shows strong alignment with lean season assistance scale-up. Provides a 3–4 month lead time before the lean season starts (October–November)
Tier 2 – Observational and Activation	Impact-Based	APES Round 2 estimates: ≥20% reduction in maize production compared to five-year average in drought-prone local authorities	2–4 weeks	Activation	Agriculture, Food Security	Ministry of Agriculture (APES Round 3 production estimates)	APES Round 2 data may serve as an early indicator for poor seasonal outcomes. Supports validation of drought impact triggers ahead of MVAC assessments. Enables timely adjustment of anticipatory actions, especially in local authorities with confirmed yield reductions.

							Future iterations may benefit from triangulation with community-level observations or remote sensing data

Table 4: Strong Wind Trigger Summary Table

Tier	Trigger Type	Trigger Statement	Lead Time	Phase	Clusters/Sectors Activated	Responsible Agency(ies) and Data Products	Notes
Tier 1 – Forecast-Informed Readiness	Forecast-Based (Strong Winds)	Forecasted winds ≥45–60 km/h sustained or gusts in ≥2 local authorities	2–3 days	Readiness	Shelter, Agriculture, Protection, Education, Logistics, Communication	DCCMS (2–3 day wind advisories (regional model outputs used by DCCMS))	Threshold range reflects projected wind speeds (up to 50 km/h) from the 2024 National Risk Atlas under a 100-year return period, capturing both cyclone-driven and localized damaging wind events; The 45 km/h threshold enhances sensitivity to non-cyclonic but destructive windstorms common in

							southern and central local authorities; Forecast skill remains moderate; thresholds may be refined through implementation learning. Hindcast: During Cyclone Freddy, advance wind warnings were issued, though actual damage was often underestimated.
Tier 2 – Observational and Activation	Observational (Strong Winds)	Field reports or automated stations indicating wind speeds exceeding safe thresholds	Real-time	Situational Awareness / Validation	Shelter, WASH, Protection	DCCMS, DoDMA (Automatic weather stations and field validation where available)	Not a formal trigger yet; supports validation of DCCMS alerts and coordination of responses in affected local authorities; Limited AWS network coverage constrains monitoring. Future efforts could explore SMS-based or citizen-

							reported observations for rapid triangulation.
Tier 2 – Impact-Based	Impact-Based (Strong Winds)	Field assessments or data showing ≥25% of households with partial roof/crop damage	2–5 days	Activation	Shelter, Agriculture, Protection, Logistics	DoDMA (Field assessments)	Exploratory; may support targeted response in zones with confirmed damage; to be refined through further analysis and implementation learning; Requires clear SOPs to ensure rapid assessment turnaround.

4.8 Trigger Validation and Activation Flow

The validation and activation of triggers follow a structured process to ensure coordination, timely decision-making, and sectoral alignment. The steps in Table 5 outline how technical agencies, DoDMA, and implementing partners jointly operationalize forecast or impact-based alerts.

Table 5: Trigger Validation and Activation Flow

Step	Action	Monitoring parameters	Responsible Actor(s)	Key Outputs/Notes
1. Trigger monitoring	• Continuous monitoring of indicators as defined in the NAAF (e.g., rainfall forecasts, river gauges, wind advisories, food security projections).	• Rainfall • Flash floods • Dry spells • Strong winds	• DCCMS	• Real-time or routine updates in Trigger Log Template during risk periods.
		• River gauge levels	• DWR	
		• IPC/HEA projections	• MVAC	
2. **Reference trigger** threshold crossed	• Technical agency alerts DoDMA once threshold is met .	• Thresholds defined in the AA	• DCCMS • DWR • MVAC	• Early alert shared; triggers potential joint validation.
	• DoDMA alerts Anticipatory Action TWG		• DoDMA	• Notification sent to AA TWG
3. Validation and joint confirmation	• Convene a Joint Technical Review within 24 hours to confirm hazard, geographic scope, and sectoral readiness. • Reference partner SOPs and related return periods where applicable.	• Multi-source verification of hazard presence, geographic scope, and readiness levels	• DoDMA • Relevant technical agencies • Sectoral focal points	• Verified trigger log entry • Decision on activation tier (Tier 1 or Tier 2) • Notification to implementing agencies

	• Sectoral focal points, nominated by each cluster, will support technical interpretation and readiness planning for actions relevant to their sector when a trigger is validated.			
4. **Finance release and clearance**	• Trigger pre-arranged financing mechanisms and ensure clearance is secured before issuing activation notice.	• Confirmation of validated trigger, availability of financing instruments	• DoDMA (Finance Desk) • Ministry of Finance / Treasury • Funding partners (if relevant)	• Funds triggered for anticipatory actions • Clearance issued for procurement and operational roll-out
5. Decision to activate	• Formal activation notice issued, triggering action by partners based on SOPs. • Agencies with pre-approved SOPs and financing may proceed with independent anticipatory actions, even if not funded directly under the NAAF.	• Final validation of hazard impact and SOP alignment	• DoDMA (with AA TWG and technical leads)	• Tier 1 or Tier 2 activation • Operational coordination initiated • Enables decentralized activation in line with validated triggers and partner-specific SOPs
6. Implementation and monitoring	• Roll out anticipatory actions; track implementation, coverage, and lessons learned.	• Coverage, timeliness, effectiveness of actions,	• Implementing partners (MRCS, sector agencies)	• Action reports • Lessons for refinement • Strengthened local

		real-time reporting	• Local authorities • M&E focal points	coordination through DRM committees Trigger log updated

5 Pre-Agreed Early Actions

This chapter outlines the process for identifying, screening, and operationalizing early actions that can be implemented in anticipation of predictable hazards. Pre-agreed early actions are central to Malawi's National Multi-Hazard Anticipatory Action Framework, ensuring that timely, targeted, and no-regrets interventions are triggered once thresholds are met.

The early actions presented in this chapter are aligned with the risk profiles, trigger designs, and sectoral priorities outlined in previous chapters. They are organized by hazard type and activation phase (readiness vs. response), and reflect technical consultations with national agencies, local authority actors, and implementing partners.

5.1 Hazard Seasonality and Anticipatory Timing in Malawi

Malawi's climate risk profile is shaped by distinct seasonal patterns that influence the onset and intensity of priority hazards. The timing of pre-agreed early actions must align with these seasonal windows to ensure actions are implemented before impacts occur. For instance, in Malawi, the rain season typically begins in October, with a split into two halves: October–December and January–March/April. This seasonal pattern means that dry spells can occur in November and December, especially following early or erratic rains. These mid-season dry spells pose high risks to crop establishment, often requiring replanting or other early agricultural interventions. As such, anticipatory action windows must remain responsive to both early-season drought risk and shortened growing periods. Understanding when hazards typically occur enables proactive planning and timely activation of early actions. Table 6[10] outlines the seasonality of Malawi's priority hazards and indicative timeframes for implementing Tier 1 (readiness) and Tier 2 (activation) responses.

Table 6: Seasonal Calendar of Priority Hazards and Anticipatory Action Windows in Malawi

Month	Agricultural Drought	Floods (Pluvial/Fluvial/Cyclone-Induced)	Strong Winds (Cyclones/Storms)
January	Risk of dry spells (activation)	High flood risk (activation)	High risk (activation)
February	High drought/dry spell risk	Peak flood season (activation)	Peak wind season (activation)
March	Ongoing drought risk	Recurring flood alerts	Cyclone-related winds (activation)
April	Recovery or late response	Flood risk decreases	Reduced wind threats

[10] *Color codes reflect the level of anticipatory risk and action required. Red indicates Tier 2 (activation phase), Amber indicates Tier 1 (readiness phase), and Green indicates low/no immediate risk. This applies across all hazard types (agricultural drought, floods, and strong winds).*

May	End of growing season	Low flood risk	Low wind activity
June	Post-harvest period	Dry season	Dry season
July	Winter farming/prep (readiness)	Dry season	Dry season
August	Winter farming/prep (readiness)	Dry season	Dry season
September	Off-season prep (readiness)	Dry season	Dry season
October	Early drought preparedness; possible delayed rains or false start	Onset of rains (readiness)	Onset of convective storms
November	Forecast-based prep (Tier 1) - Dry spell risk during early crop growth	Rising flood risk (Tier 1 readiness)	Wind alerts possible
December	Peak drought onset (Tier 1–2); high risk of dry spell during early crop stages; replanting may be needed	Flood risk increases	Cyclone season starts (Tier 1–2)

5.1.1 Seasonal Impact Timing Across Sectors

While hazards such as floods and strong winds tend to cause immediate disruptions, drought-related impacts often materialize gradually. Food insecurity tends to rise between October and February, coinciding with the lean season and reduced household food stocks. Health impacts such as malnutrition may follow drought-induced crop failures, especially from January onward, while school dropout risks may rise in the lean season due to food insecurity or displacement. These sectoral impact patterns are important considerations for timing anticipatory actions beyond agriculture.

5.2 Criteria for Identifying and Screening Early Actions

Pre-agreed actions are the backbone of anticipatory action. They allow actors to respond predictably and swiftly when a trigger is met. To ensure these actions are timely, feasible, and relevant, Malawi's National Multi-Hazard Anticipatory Action Framework applies a clear set of criteria to identify, screen, and validate early actions across sectors and hazards.

These criteria help ensure that early actions:

- Are operationally realistic within local and national systems,
- Align with forecast and observational lead times,

- Are cost-effective and justifiable before impacts occur, and
- Uphold principles of no-regrets, do-no-harm, and inclusivity.

5.2.1 Screening Criteria

Table 7 presents the criteria that were applied during technical consultations and that guided the selection and refinement of early actions in sector-level SOPs:

Table 7: Screening criteria

Criterion	Definition / Rationale
Timeliness	Action must be implementable within the forecast or observational lead time available (e.g., 3–10 days).
Relevance to forecasted hazard	Action must directly reduce the anticipated impact of the specific hazard.
Feasibility	Action must be operationally and logistically feasible with existing resources, partners, and delivery systems.
Cost-efficiency	Action must provide value for money compared to delayed response or inaction.
No-regrets	Action must be beneficial even if the hazard does not fully materialize, with minimal risk of resource misuse.
Life-saving relevance	The action must clearly prevent loss of life, reduce life-threatening risks, or address critical needs in a timely manner.
Inclusivity and accessibility	Action must be designed to reach and benefit vulnerable and at-risk populations (e.g., children and youth, women, persons with disabilities, elderly).
Community acceptability	Action must align with local preferences, norms, and capacities; consultation is critical for local ownership.
Do-no-harm and conflict sensitivity	Action must not exacerbate existing vulnerabilities or create new risks, including social tension or environmental harm.
Sustainability	Where possible, action should contribute to longer-term resilience or align with ongoing development efforts.

5.2.2 Screening Process

Early actions are identified through a participatory, multi-sectoral process that involves:

- Reviewing historical impact data and seasonal risk trends,
- Building on previous and/or existing AA efforts across stakeholders and hazards,
- Engaging sectoral experts to propose feasible interventions,
- Validating proposed actions against the above criteria,
- Incorporating insights from community consultations on evolving priorities and feasibility, and
- Embedding them in Sector-Specific SOPs, which define the timing, roles, and delivery pathways for each action.

This process ensures that pre-agreed actions are not only evidence-based but also locally grounded, context-appropriate, and ready for activation as soon as thresholds are met.

5.3 Repository of Early Actions

This section presents the consolidated repository of early actions identified through the participatory screening process outlined in Section 5.2. Actions are organized by hazard (agricultural drought, floods, and strong winds) and by activation phase, distinguishing between:

- Pre-season preparedness actions: Institutional and community-level activities implemented in advance of high-resolution triggers. These are particularly important for the fast-onset hazards (floods and strong winds), where structural readiness, material pre-positioning, and community awareness are critical;
- Readiness actions (Tier 1): No-regrets, low-cost interventions triggered by early warning systems or seasonal forecasts, timed to occur shortly before hazard onset; and
- Activation actions (Tier 2): Targeted, cost-intensive interventions triggered by confirmed observational or impact-based data, often as an extension of anticipatory readiness.

This three-phased model reflects stakeholder feedback and is designed to improve clarity, align institutional roles, and ensure timely execution of anticipatory actions across different hazard types.

While pre-season preparedness is not based on fixed thresholds, it is still forecast-triggered, initiated by national and regional seasonal outlooks indicating elevated risk of priority hazards. These seasonal forecasts act as early ‘soft triggers’ prompting advance planning, coordination and preparedness well before short-term alerts are available.

The early actions listed here reflect Malawi’s risk profile (Chapter 3), stakeholder consultations, and prior implementation experience. Each action includes indicative timing, sectoral responsibilities, and key implementation considerations, enabling predictable, inclusive, and evidence-based action when triggers are met. While not exhaustive, the repository provides a practical foundation for adaptation through sectoral SOPs, local authority-level planning, and implementation learning.

5.3.1 Agricultural Drought

Agricultural drought is a slow-onset but highly consequential hazard in Malawi, particularly affecting rainfed smallholder farming systems. Both seasonal forecasts and long-term climate projections suggest shifts in rainfall onset, cessation, and intra-seasonal distribution, leading to shorter and more erratic growing seasons. These evolving risks increases the urgency for anticipatory measures to protect food security, livelihoods, and nutrition.

Given the slow-onset nature of drought, anticipatory actions are implemented primarily in response to seasonal rainfall forecasts and observed early warning indicators. As such, they are fully integrated within the Tier 1 readiness and Tier 2 activation phases, without a separate pre-season preparedness table. Tables 8 and 9 outline these actions, which are triggered by on

seasonal forecasts, rainfall anomalies, confirmed dry spells and projected food security outcomes.

Table 8: Agricultural Drought – Readiness Actions (Tier 1)

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Disseminate seasonal drought forecasts and preparedness messaging	DRM / Agriculture / DCCMS	30–45 days before onset	Farmers and DRMCs in drought-prone local authorities
Identify and register vulnerable households in hotspot areas	DRM / Social Protection	30–60 days before season	Lays groundwork for timely Tier 2 activation of anticipatory cash or food support; uses SCT and community-based targeting
Establish pre-season agreements with seed suppliers for drought-tolerant varieties	Agriculture	1–2 months before planting season	Secure timely access to certified drought-tolerant or short-cycle seed stocks to enable rapid distribution upon activation; facilitates smoother procurement under public/private partnerships
Distribute drought-tolerant or short-cycle seed varieties	Agriculture / Extension/Logistics	30–45 days before planting	Supports adaptive planting in drought-forecast areas; Tier 2 may offer follow-up support if planting fails
Build or rehabilitate water harvesting and storage infrastructure	WASH / Local Government	1–3 months prior	Prepares critical infrastructure for dryland farming and drought response
Provide anticipatory cash transfers	Social Protection / DRM	30–45 days pre-season	Targets vulnerable households to preempt seasonal food insecurity; distinct from Tier 2 transfers which follow trigger activation
Conduct refresher training for extension workers	Agriculture / Extension	Alongside initial training	Builds capacity to support farmers with drought-resilient practices; complements Tier 2 pest control, input distribution, and harvesting guidance

Develop and disseminate child-friendly messages on drought risks, coping, and safety	Education / Protection / DRM	1–2 months before season	Designed for primary and secondary learners in drought-prone districts; messages should cover food insecurity, school attendance, stress management, and where to seek help
Conduct caregiver sessions on stress management and child well-being during drought preparedness	Protection / Health / Education	1–2 months before drought onset	Helps reduce stress-related risks to children; can be delivered via school meetings, health talks, or community forums
Pre-identify and plan alternative care options for separated or unaccompanied children	Protection	30–60 days before season	Applies in areas with prior history of drought-linked displacement or family separation
Pre-position livestock feed and water storage tanks	Livestock / DRM	30 days before projected onset	Enables timely deployment in Tier 2 to prevent livestock stress in high-risk dryland local authorities
Pre-position contingency food stocks in forecasted drought-risk districts	Food Security Cluster	1–2 months before onset	Pre-position food rations or grain in strategic locations within districts at high risk of drought, based on seasonal forecasts; enables immediate activation upon trigger, aligned with national targeting frameworks and district contingency plans.
Conduct pre-season risk messaging and school contingency planning	Education / DRM	1–2 months before school term	Helps schools prepare for forecasted drought; links to Tier 2 measures like take-home rations and psychosocial support
Strengthen nutrition surveillance, screening, and referral systems	Health / Nutrition	Pre-season setup	Supports early detection of malnutrition hotspots; Tier 2 actions (e.g., RUTF, mobile clinics) depend on this groundwork
Identify and train (or refresh) agricultural	Agriculture / Extension Services	30–45 days before planting	Include guidance on crop selection, early

extension workers on drought-resilient practices			planting, and contingency measures for dry spells
Conduct refresher training for DRMCs and water point committees/ Area Mechanics	DRM / WASH	1 month prior	Prepares local responders to support activation and community outreach
Disseminate contingency plans and alerts through radio and mobile platforms	DRM / Communications	Ongoing during pre-season	Ensures timely information sharing with inclusive formats (local languages, disability access); complements Tier 2 activation messaging
Conduct refresher training for responders on GBV prevention and PSEA	Protection / DRM / UN Agencies	Pre-deployment phase	Ensures Tier 2 community-facing activities (e.g., distribution, outreach) are conducted safely and ethically
Map and assess functionality of boreholes and critical water points	WASH	Pre-season	Informs repair prioritization and supports efficient emergency water access under Tier 2
Conduct participatory scenario planning and village-level contingency dialogues	DRM / Agriculture / Local Gov't	1–2 months prior	Builds local ownership of anticipatory plans and aligns community roles ahead of Tier 2 activation

Table 9: Agricultural Drought – Activation Actions (Tier 2)

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Distribute pre-positioned food aid or initiate anticipatory cash transfers	Food Security/Social Protection	Within 7–10 days	For households projected to become severely food insecure; use SCT/SP targeting lists where applicable, ensuring inclusion of child- and female-headed households. Consider school-going children often missed by household targeting.
Deploy pre-positioned RUTF and conduct emergency	Health / Nutrition	Within 1 week of forecast trigger	Pregnant/lactating women, children under 5 in impacted local authorities;

nutrition screening			aligned with CMAM protocols
Distribute pre-positioned livestock feed and deploy veterinary support	Livestock / Agriculture/Logistics	1–2 weeks after trigger	Particularly in dryland areas (e.g., Balaka, Machinga, Nsanje); aim to prevent livestock stress during early drought conditions.
Provide emergency water trucking to households and livestock	WASH / DRM / Local Gov't	Immediate post-trigger	Target communities with non-functioning or low-yield water points; complements pre-season borehole assessments.
Activate anticipatory pest surveillance and control for African Armyworm	Agriculture / Extension Services	1–2 weeks after confirmed dry spell	Focus on local authorities historically prone to outbreaks; use pre-positioned supplies and trained community scouts.
Distribute take-home rations or school meals to at-risk learners	Education / Social Protection	Within 1–2 weeks of activation	Schools in drought-affected areas; education sector may also pre-position take-home rations or cash for vulnerable learners.
Initiate early harvesting of maturing crops	Agriculture	As drought stress escalates	Reduces loss of semi-mature crops in local authorities with rainfall cessation
Deploy mobile veterinary outreach teams	Livestock / Extension Services	1–2 weeks post-trigger	Treat malnourished or stressed livestock to prevent disease outbreaks
Operate temporary food banks or fodder depots established during readiness phase	Agriculture / DRM	Within 1 week	Rapid deployment of pre-positioned stocks; relies on pre-arranged management and locations.
Distribute pre-positioned learning materials to schools projected to face drought-induced disruption	Education	Within 2 weeks post-trigger	Vulnerable and displaced learners at risk of dropout due to livelihoods loss or school disruptions
Provide anticipatory psychosocial and mental health support and outreach	Protection / Health	Throughout drought period	Youth, caregivers, school children, and other groups facing mental health stress or caregiving burden; include disability- and gender-sensitive outreach

Activate rapid repair and protection of critical water points identified in drought risk mapping	WASH	1–2 weeks post-trigger	Includes borehole repairs, artificial recharge technichs and water purification activities
Use pre-season projections to refine geographic targeting	DRM / Food Security / Social Protection	Pre-activation and ongoing	Use MVAC, IPC, and APES data to guide prioritization before activation decisions.
Distribute nutrition top-up cash or food rations for at-risk households	Nutrition / Social Protection	Within 1–2 weeks post-trigger	Target vulnerable households with pregnant/lactating women and children under 5; align with CMAM and SCT systems
Deploy mobile clinics for nutrition screening and basic services	Nutrition / Health	Within 1–2 weeks post-trigger	Particularly in remote areas with high GAM/underweight prevalence or disrupted services
Promote homestead food production through distribution of nutrition-sensitive seeds and extension	Agriculture / Nutrition	Within 2–3 weeks post-trigger	Emphasize leafy greens, legumes, and drought-resilient crops to enhance dietary diversity

5.3.2 Floods

Floods remain one of the most damaging and recurrent hazards in Malawi, with both pluvial and fluvial forms leading to displacement, infrastructure damage, and public health crises. Anticipatory actions for floods focus on three distinct but interconnected phases: pre-season preparedness, forecast-informed readiness, and impact-based activation. These phases are informed by seasonal outlooks, short-term forecasts, and real-time impact data, allowing for progressively tailored interventions.

The early actions outlined below aim to: (i) enhance preparedness before the flood season begins, (ii) enable no-regret, low-cost measures in anticipation of forecasted events, and (iii) trigger more targeted and cost-intensive responses when observational or impact thresholds are met. This approach ensures a flexible but structured response that builds on Malawi's existing early warning systems and disaster risk governance mechanisms.

Tables 10, 11 and 12 present the pre-season preparedness, readiness and activation actions for floods.

Table 10: Flood – Pre-Season Preparedness Actions

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Review contingency food distribution plans and update vulnerable group mapping	Food Security / DRM	1 month before rains	Coordinate with local authority DRM offices; align with social protection and nutrition systems
Update and disseminate community evacuation plans and risk maps	DRM / Protection / Local Government	Pre-season and 1–2 weeks prior	Prioritize flood-prone villages and informal settlements
Conduct community EWS drills and preparedness awareness sessions	Information & Communication / DRM	Monthly/Seasonally	Ensure drills include PWDs, children, and elderly
Train DRMCs, community volunteers, and local leaders on emergency protocols	DRM / Protection / Local Government	1–2 months before hazard	Include VDRMCs and ADRMCs; refresher training
Reinforce critical infrastructure (e.g., school roofs, health post footbridges)	Education / Health / Public Works	1 month before rains	Temporary flood-proofing in vulnerable areas
Coordinate with nutrition partners to pre-position supplies and screening plans	Nutrition / Health	1 month before hazard	Ensure contingency for blanket feeding and GAM screening in high-risk zones
Pre-arrange agreements with boat operators and transport providers	Logistics / Local Government	1 month before rains	Signed MOUs for emergency mobility
Identify flood-prone agricultural zones and prepare guidance for early harvesting or protection of crops	Agriculture / Extension Services	1 month before rains	Develop extension messaging on drainage, seed recovery, and post-flood replanting
Train school and health facility	Education / Health / Protection	Pre-season	Focus on local authorities with

personnel on referral and emergency protocols			previous school closures or hospital disruptions
Pre-identify alternative care options for children at risk of separation during evacuation	Protection	1–2 months before peak flood season	Enable safe temporary arrangements for children who may be separated during preventive evacuations
Pre-position menstrual hygiene and dignity kits	Protection / Health / Logistics	Pre-event	Prioritize flood-prone shelters and schools
Establish temporary community shelters and evacuation points	Shelter / Camp Management / DRM	Before peak rains	Work with local councils; ensure disability access
Pre-position trauma kits and emergency medical supplies	Health / Logistics	1 month before rains	Target local authority and rural hospitals in flood-prone areas; based on historical caseload and access constraints
Map and review emergency transport and ambulance coverage	Health / Local Government	Pre-season	Identify gaps in ambulance and referral transport access; prioritize areas likely to be cut off during flooding
Conduct flood-specific simulation exercises in major health facilities	Health / Hospital Management	1 month before rains	Include referral protocols, casualty handling, and WASH measures; linked to local authority SOPs
Conduct awareness and enforcement of school evacuation SOPs	Education / DRM	1–2 months before flood season	Raise awareness of SOPs on the use of schools as evacuation centres. Reinforce the 3-day limit and clarify roles of school heads, DRMCs, and local authorities to prevent prolonged disruption of education services
Develop and disseminate child-	Education / Protection / DRM	1–2 months before flood season	Target learners in schools and out-of-

friendly messages on flood risks and safety			school children in flood-prone areas; materials should include safety tips, hygiene, and help-seeking behaviour

Table 11: Flood – Readiness Actions (Tier 1)

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Deploy search and rescue teams in high-risk local authorities	Search & Rescue / DoDMA / Defence	3–5 days pre-event	Focus on local authorities with poor access or past entrapment incidents
Pre assessment and Pre-position emergency shelter and WASH kits	Shelter / WASH / Logistics	3–5 days pre-event	Includes tents, plastic sheeting, jerry cans, soap, buckets, chlorine, water test kits for at risk communities, schools, etc
Identify and register vulnerable households for evacuation or immediate support	Social Protection / DRM	3–5 days pre-event	Includes older persons, pregnant women, and persons with disabilities (PWDs)
Disseminate localized early warnings via radio, SMS, and community messengers	Communications / DRM	3–5 days pre-event	Use trusted channels; ensure access for PWDs and non-literate populations
Alert and mobilize transport providers for evacuation support	Transport / Logistics / Local Government	3–5 days pre-event	Based on pre-arranged MOUs with boat/truck operators
Activate community-level evacuation teams and assign shelter focal points	DRM / Protection / Shelter	3–5 days pre-event	Draws from DRMCs, VDRMCs, and trained volunteers
Conduct last-mile flood risk briefings for schools and health centres	Education / Health / Protection	3–5 days pre-event	Prioritize local authorities with historical flood-related closures or health disruptions
Final check and restocking of	WASH / Health / Logistics	3–5 days pre-event	Ensure rapid availability for initial

emergency stocks (chlorine, ORS, MHM kits)			response; focus on cholera-prone local authorities
Strengthen community-based nutrition surveillance in flood-prone areas	Nutrition / Health	3–5 days pre-event	Utilize existing CHWs to monitor malnutrition risks and inform response targeting

Table 12: Flood – Activation Actions (Tier 2)

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Distribute emergency cash transfers to vulnerable households	Social Protection / DRM / WFP	Within 1–2 days post-trigger	Use pre-registered lists where available
Support evacuation (boats, trucks, fuel, escorts)	Transport / Protection / DRM	Immediate	Include assistance for people with reduced mobility
Provide emergency shelter kits and plastic sheeting	Shelter / Camp Management / Logistics	Within 48–72 hours	Prioritize displaced and shelterless households
Distribute emergency WASH kits and hygiene items (chlorine, soap, buckets), including materials for cholera prevention and hygiene messaging	WASH / Health	Within 72 hours	Chlorine, soap, buckets; link to cholera prevention, hygiene education and use of IEC materials
Relocate livestock and distribute emergency fodder	Agriculture / Livestock	Within 5 days	Livestock corridors and high-ground zones
Conduct emergency hygiene promotion activities (radio, mobile, community engagement and training)	WASH / Communications	Immediate	Target high-risk locations for cholera/malaria prevention
Close schools temporarily in flood-risk areas	Education / DRM	Based on alerts	Activate school safety SOPs
Activate child protection hotlines and alert systems in advance of forecasted floods	Protection / DRM	Within 3–5 days	Ensure children and caregivers have channels to report risks or seek help during pre-emptive evacuation or sheltering
Conduct sessions with caregivers in shelters on	Protection / Health / Education	Within 3–5	Delivered in coordination with psychosocial teams

stress, child protection, and well-being			and education actors; prioritizes women-headed households
Provide psychosocial and mental health support and outreach in shelters	Protection / Health	3–5 days after displacement	Women, girls, youth, and trauma-affected households
Establish/maintain temporary latrines and bathing facilities in evacuation centres	WASH / Camp Management	Within 72 hours	Ensure gender separation and menstrual hygiene access
Distribute dignity kits to displaced women and girls	Protection / Health / NGOs	Within 3–5 days	Includes sanitary pads, underwear, soap, and torches
Initiate early harvesting of crops in flood-threatened areas	Agriculture / Food Security	If 2–5 days pre-inundation	Communicate via extension and media to reduce food loss

5.3.3 Strong Winds

Strong wind events, both cyclone-related and seasonal, are increasingly frequent in Malawi and cause significant damage to housing, schools, crops, and community infrastructure. While typically localized, their impacts are recurrent and under-addressed. Table 13-15 present anticipatory actions to reinforce structures, protect exposed populations, and ensure rapid post-event support.

Forecast-based advisories from DCCMS enable implementation of Tier 1 readiness actions (Table 14) 2–3 days ahead of projected strong wind events. These include temporary shelter strengthening, preparedness messaging, school safety measures, and crop protection.

While Tier 2 activation (Table 15) for strong winds remains limited for short-lived, localized events, it is technically feasible for cyclone-induced strong winds with spatial progression. In such cases, observed damage in one local authority, when paired with reliable forecasts for adjacent local authorities, may justify conditional anticipatory actions such as school closures, psychosocial mobilization, and anticipatory cash distribution in areas yet to be hit.

This conditional Tier 2 approach is context-sensitive and anticipates impact where forecasted winds are likely to follow an observable path, particularly during cyclones. However, broader rollout remains constrained by the limited availability of real-time observational data (e.g., automated wind speed stations), absence of SOPs for rapid impact validation, and weak triangulation capacity.

As such, the framework includes selected Tier 2 actions for cyclone-linked scenarios, while underscoring the need for further investment in real-time monitoring, citizen-based observation systems, and local authority-level SOPs to expand and operationalize anticipatory response for strong winds.

Table 13: Strong Winds – Pre-Season Preparedness Actions

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Identify and map weak structures (e.g., schools, health posts)	Education / Health / Local Government	Pre-season or quarterly	Focus on roofed public buildings in wind-prone areas
Train school heads and local leaders on wind safety SOPs	Education / DRM / Protection	Seasonal preparedness	Include school closure protocols and safe zones
Sensitize communities on safe sheltering and roof reinforcement practices	DRM / Shelter / Protection	Ongoing seasonal campaigns	Encourage household tie-downs and wind-safe construction practices
Conduct rapid roof inspections in public facilities	Public Works / Local Government	2–4 weeks before peak winds	Prioritize clinics, schools, and community halls
Pre-position crop protection inputs (e.g., stakes, mulch, fencing materials)	Agriculture	1–2 weeks pre-event	Especially for banana, maize, and groundnut crops in vulnerable zones
Review and update emergency SOPs for wind events at local authority level	DRM / Local authority	Pre-season	Includes command and communication systems
Pre-position temporary safe learning spaces	Education / DRM / Shelter	3–5 days before forecasted strong winds	To ensure continuity of learning if school buildings are damaged or unsafe. Prioritize high-risk areas with poor infrastructure or historical exposure. Coordination needed with logistics and shelter clusters for storage and rapid deployment.
Conduct awareness campaigns to enforce SOPs on the use of schools as evacuation centres	Education / DRM / Local Government	1–2 months before strong wind season	Ensure compliance with MoE guidelines, including time limits and safety measures for using schools as temporary shelters. Target school heads, DRMCs, and civil protection committees in wind-prone areas

Table 14: Strong Winds – Readiness Actions (Tier 1)

Early Action	Lead Sector / Cluster	Estimated Timing	Target Groups / Notes
Disseminate strong wind advisories and	DRM / Information & Communication	2–3 days pre-forecast	Use local radio, mobile alerts, and

preparedness messaging			visual symbols for children and PWDs
Pre-position tarpaulins and temporary roofing repair kits and materials	Shelter / Logistics / Camp Mgmt	2–3 days before event	Prioritize local authorities with high exposure and low housing resilience
Alert and pre-mobilize search and rescue teams	Search & Rescue / DoDMA / Defence	2–3 days pre-event	Enable rapid deployment post-impact
Issue safety directives on school closures or building reinforcement	Education / DRM / Local Government	2–3 days before forecasted winds	For schools with weak roofs or past exposure
Disseminate crop protection advisories (e.g., staking bananas, securing field structures)	Agriculture / Extension	2–3 days before impact	Focus on wind-sensitive crops in Southern and Central regions
Push last-mile community alerts via megaphones, SMS, or chiefs	DRM / Protection / Communications	1–2 days before event	Especially informal settlements and remote areas
Close schools in high-risk areas based on forecast alerts	Education / DRM	1–2 days pre-event	Triggered by wind forecast ≥45–60 km/h in vulnerable local authorities with weak infrastructure
Distribute anticipatory cash or material support to high-risk low-income households	Social Protection / Shelter	2–3 days pre-event	Use exposure mapping + pre-registered beneficiary lists to enable early protection (e.g. temporary reinforcement)
Deploy psychosocial and mental health teams to shelters and exposed communities for anticipatory support	Protection / Health	2–3 days pre-event	Target anxiety-prone groups (e.g., elderly, children, previously displaced); framed as preventive psychosocial engagement
Pre-position emergency roofing support to exposed zones	Shelter / Logistics / Camp Mgmt	2–3 days pre-event	NOT distributed yet, but staged in strategic points for rapid use post-event

Table 15: Cyclone-Linked Strong Winds – Conditional Tier 2 Anticipatory Actions

Early Action	Lead Sector / Cluster	Timing	Notes

Close schools in cyclone-path local authorities yet to be hit	Education / DRM	1–2 days before expected wind onset	Based on impact in earlier local authorities and cyclone track
Pre-deploy emergency roofing kits to next-risk zones	Shelter / Logistics	Within 24 hours pre-impact	Pre-positioning, not distribution
Last-mile alerts to households in next-in-line local authorities	DRM / Communication	12–24 hours pre-impact	Use mobile, radio, and local leaders
Psychosocial** and mental health **support teams on standby in local authorities likely to be hit	Protection / Health	1–2 days pre-impact	Focus on shelters, schools, exposed groups
Distribute anticipatory cash to cyclone-path vulnerable households	Social Protection / DRM	1–2 days pre-impact	Based on exposure mapping and pre-registrations

5.4 Targeting Approach

Timely and effective anticipatory action requires clear guidance on where to act and who to prioritize once a trigger is activated. This framework adopts Malawi's Unified Beneficiary Registry (UBR) as the primary tool for identifying vulnerable populations in local authorities where it is operational. In areas where UBR data is not available or accessible, the Joint Emergency Food Assistance Programme (JEFAP) targeting protocols shall apply. No parallel or new targeting systems are introduced under this framework.

The targeting process consists of two levels: (i) geographical prioritization to determine where anticipatory actions will take place, and (ii) household-level targeting using UBR or JEFAP procedures to determine who is reached within those areas.

5.4.1 Geographic Prioritization

Geographic targeting under the NAAF is informed by the risk analysis presented in Chapter 3, including hazard exposure, vulnerability, and historical impact patterns. Local authorities are prioritized based on:

- Frequency and severity of past events (e.g., flood recurrence, drought impact on crop yields),
- Forecasted risk from seasonal outlooks and early warning systems (e.g., DCCMS, DWR),
- Presence of high-risk populations, and
- Operational feasibility (e.g., access to infrastructure, presence of partners, communication reach).

At trigger activation, the AA TWG will convene a technical validation meeting to validate the geographic scope of action. Sub-local authority prioritization (e.g., floodplains, TA-level hotspots) may be applied where justified by data and operational plans.

5.4.2 Household and Population Targeting

Following geographic validation, household-level targeting must adhere strictly to approved national mechanisms:

- UBR is used as the primary reference for identifying eligible households in local authorities where it is functional.
- Where UBR data is unavailable, JEFAP targeting protocols, which include community validation and vulnerability screening, will be applied.

Vulnerable groups prioritized under both systems typically include:

- Households with children under five, pregnant or lactating women, or malnourished individuals;
- Female-headed households and women and girls at risk of GBV;
- Persons with disabilities or limited mobility, especially in need of evacuation or accessible shelter;
- Households with no access to safe water, sanitation, or essential services;
- Smallholder farmers with limited seed stocks, livestock feed, or irrigation options;
- Those excluded from or not regularly reached by ongoing safety net or relief programs

Existing data sources (e.g., SCTP databases, school records, nutrition surveillance) may be used to support verification, where consistent with UBR or JEFAP procedures.

5.4.3 Inclusive and Adaptive Targeting

The NAAF promotes inclusive targeting, ensuring marginalized populations are neither overlooked nor placed at additional risk. This includes:

- Community consultation and feedback loops before and during implementation,
- Accessibility of services and communication for people with disabilities and linguistic minorities,
- Gender-sensitive targeting (e.g., sex-disaggregated lists, protection referrals),
- Inclusion of vulnerable urban groups in flood-prone informal settlements, and
- Flexibility to adapt targeting based on ground realities and impact verification.

5.5 Integration with Sectoral Contingency Plans, Humanitarian and Development Action

For anticipatory action to be effective and scalable, it must be embedded within existing response systems and sector-specific contingency arrangements. This section outlines how the National Multi-Hazard Anticipatory Action Framework aligns with ongoing disaster preparedness and humanitarian coordination efforts in Malawi.

5.5.1 Alignment with National and Local Authority Contingency Plans

Anticipatory action under the NAAF is designed to complement, not replace, Malawi's existing disaster preparedness architecture. This includes the National Contingency Plan (NCP),

coordinated by DoDMA and structured around clusters, as well as Local Authority Contingency Plans developed by relevant Local Authority Disaster Risk Management Committees (DRMCs).

The NAAF strengthens these systems by:

- Linking early warning triggers to predefined actions in national and local authority plans,
- Providing a structured mechanism to act prior to conventional humanitarian response timelines,
- Enhancing cross-cluster coordination for early, no-regret interventions,
- Supporting the integration of anticipatory action into contingency planning updates and simulation exercises.

During rollout, DoDMA and partners will work with clusters and local authorities to embed anticipatory action timelines, triggers, and roles within contingency planning processes.

5.5.2 Linkages to the Humanitarian, Development, and Adaptation Programme Cycle

The NAAF aligns with Malawi's broader humanitarian programme cycle, particularly in the following ways:

Humanitarian Cycle Stage	NAAF Contribution
Risk Monitoring	Use of forecast and observational data to detect early warning signals
Preparedness and Contingency	Readiness actions implemented ahead of crisis onset
Response	Tier 2 actions reduce severity of impact, enabling faster and more targeted response
Recovery and Resilience	Post-trigger review and adaptation feeds into improved SOPs and contingency planning

Where humanitarian partners are active (e.g., OCHA, WFP, UNICEF, Red Cross, NGOs), the NAAF provides a mechanism to pre-align interventions, funding windows, and targeting approaches, ensuring that anticipatory actions do not duplicate but rather pre-emptively reduce response needs. These linkages can also support the integration of anticipatory actions into broader development and adaptation programmes, rather than treating them as standalone or exclusively humanitarian interventions.

Beyond humanitarian alignment, the NAAF also contributes to Malawi's broader development and climate adaptation efforts. By anchoring early actions in government systems, linking to long-term resilience strategies, and strengthening local authority-level planning, the NAAF ensures that anticipatory actions are not isolated interventions but part of a continuum that supports sustainable risk reduction and adaptive capacity building.

In parallel, the NAAF is designed to coordinate with Malawi's NEOC and DEOCs. While formal EOC activation is typically reserved for response-phase coordination, NAAF-triggered Tier 2 events, particularly those with projected high impact, may prompt EOC activation to facilitate cross-sectoral coordination, operational planning, and information flow. Even in Tier 1 readiness phases, DEOC focal points and cluster leads may be engaged in verification, readiness planning, or simulation exercises. This alignment strengthens the coherence between anticipatory action and Malawi's existing disaster preparedness and response architecture, consistent with the EOC SOPs developed by DoDMA.

5.6 Institutional Coordination and Activation Flow

The activation of early actions will follow the structure defined in the NAAF's trigger validation protocol (Chapter 4). Once a trigger is validated:

- DoDMA and the AA Technical Working Group will issue an activation notice;
- Pre-arranged financing mechanisms will be triggered, with clearance from the Ministry of Finance and/or funding partners as applicable, enabling timely procurement and disbursement for early actions;
- Each cluster will refer to its pre-agreed early actions and SOPs, linked to that hazard and threshold;
- Implementation will proceed through the existing sectoral and local authority coordination structures, with oversight from DoDMA and technical agencies.

This integration ensures coherence across disaster management levels, from national early warning to local authority delivery, and enables AA to operate as a seamless extension of preparedness, not as a parallel system.

5.7 Sustainability and Localization of Early Actions

The long-term success of anticipatory action in Malawi depends not only on effective implementation but also on the ability of local systems to own, sustain, and adapt early action mechanisms over time.

5.7.1 Sustainability Considerations

To ensure continuity and institutionalization of anticipatory action, the NAAF promotes:

- Alignment with national systems, policies, and development planning frameworks (e.g., Malawi Vision 2063, DRM Policy, NFCS,NAP, NDC…);
- Use of existing coordination structures and delivery platforms, such as DRMCs and Social Protection databases;
- Capacity building for national and local actors to implement, monitor, and adapt early actions;
- Integration into cluster SOPs and financing plans for long-term budgeting and operational readiness.

Where feasible, early actions are selected based on dual value, reducing disaster impact while contributing to broader resilience and development outcomes.

5.7.2 Localization and Community Engagement

Localization is central to Malawi's NAAF. Communities are not just beneficiaries, they are partners in early warning validation, risk communication, and action delivery. The framework supports:

- Engagement of community-based DRM structures in planning and implementation;
- Use of participatory targeting and feedback mechanisms to enhance relevance and accountability;
- Flexibility for local authority-level customization of early actions based on context, capacity, and risk dynamics.
- Recognition of national and local NGOs as key partners in anticipatory action, given their local presence, contextual knowledge, and established community trust.

As AA is scaled, emphasis will be placed on embedding anticipatory systems into local development plans, leveraging decentralization, and ensuring that AA builds on, rather than bypasses, local knowledge and institutions.

6 Financing Mechanisms and Fund Flow Arrangements

6.1 Overview: Financing Anticipatory Action in Malawi

Effective anticipatory action depends on the availability of timely and reliable financing. Without dedicated resources to implement readiness measures or activate pre-agreed early actions when thresholds are met, even the best-designed frameworks remain dormant. In Malawi, strengthening the financing architecture for anticipatory action is essential to move from reactive disaster response to proactive risk management.

This framework adopts a distinction between two critical financing components:

- **Build finance**, which refers to investments made before a hazard season to enable readiness. This includes funding for trigger development, training, stockpiling, simulation exercises, and preparedness activities embedded in sectoral SOPs.
- **Fuel finance**, which refers to funds that are immediately accessible and released once a trigger is activated. This enables the actual implementation of early actions, such as distributing emergency cash, deploying mobile teams, or relocating at-risk households.

Malawi has several relevant mechanisms and potential entry points for both types of finance. However, predictable funding for readiness remains limited and response funds are often tied to post-impact assessments and humanitarian appeals. Strengthening anticipatory financing systems will therefore require better alignment between triggers, early warnings, and disbursement protocols, backed by a mix of domestic, donor, and crisis-modifier mechanisms.

Malawi's National Disaster Risk Financing Strategy (NDRFS), currently under review, provides a policy framework for risk-layered, trigger-linked financing across the disaster cycle. The NAAF aligns with the NDRFS by promoting pre-arranged financing, fast disbursement, and stronger integration between early warning systems and fund release mechanisms.

The subsequent sections assess financing needs across hazard types and action phases, examine current fund flow mechanisms, explore available financing sources, and recommend steps toward a more robust and accountable anticipatory financing system.

6.2 Required Financing by Action Phase and Hazard

The implementation of anticipatory action requires well-defined and timely financing across two distinct phases: readiness (Tier 1) and activation (Tier 2).

6.2.1 Readiness Financing ("Build Finance")

Readiness financing refers to pre-season or pre-trigger investments that enable effective and coordinated anticipatory action when thresholds are reached. These costs are relatively predictable and typically fall under planning, training, logistics, and communication.

Examples of readiness financing needs by hazard include:

- **Agricultural drought**: Pre-positioning drought-tolerant seeds, training extension workers, and setting up drought messaging platforms.
- **Floods**: Community evacuation planning, simulation drills, pre-arranged transport contracts, and positioning shelter and WASH kits.
- **Strong winds**: Structural assessments of schools and clinics, community sensitization on roof tie-downs, and stocking of tarpaulins or roofing materials.

These actions are typically low-cost and classified as no-regrets investments, meaning they provide value regardless of whether the hazard fully materializes. Readiness financing can often be built into sectoral preparedness budgets, local authority contingency allocations, or donor-funded planning windows, but remains underutilized in most sectors.

6.2.2 Activation Financing ("Fuel Finance")

Activation financing is released once a trigger is validated and an official alert is issued by DoDMA and the AA Technical Working Group. This phase involves cost-intensive activities that must be delivered rapidly, often within 24–72 hours.

Examples of activation financing requirements include:

- **Agricultural drought**: Distribution of emergency seeds, cash assistance, emergency water trucking, and mobile veterinary support.
- **Floods**: Evacuation support, distribution of hygiene kits, cholera prevention campaigns, and temporary shelter establishment.
- **Strong winds**: Emergency roofing materials, rapid assessments of structural damage, and school closures with alternate learning modalities.

These activities demand pre-agreed disbursement protocols, fast-tracked procurement, and strong coordination with implementing partners. Without timely "fuel," early action cannot be delivered at scale or with impact.

6.3 Financing Gaps and Cost Estimation Challenges

While indicative costing of early actions has been piloted by some agencies (e.g., in dry spell frameworks), a national-level costed repository does not yet exist in Malawi. Financing needs will vary by:

- Severity of the event and number of local authorities triggered,
- Scope of early actions (sectoral vs. multi-sectoral),
- Delivery modality (e.g., cash vs. in-kind), and
- Speed of access to available funds.

Developing a standardized cost matrix, linked to each early action, will be a priority during the operationalization phase and can be integrated into cluster SOPs and national and local authority contingency plans.

6.3.1 Role of Return Periods in Costing and Financial Planning

When estimating financing needs for anticipatory action, it is useful to consider the typical return periods of prioritized hazards, that is, how often an event of a certain magnitude is likely to occur. For example, the flood and drought triggers used in Malawi's AA Framework are generally aligned with hazards occurring on a 1-in-2 to 1-in-5 year basis. This frequency supports the use of public contingency funds and flexible donor mechanisms, as these events are neither too rare to plan for, nor so frequent as to exhaust annual budgets. However, given the increasing variability and shifting baselines due to climate change, these return period assumptions must be regularly reviewed and updated to ensure continued relevance and accuracy in anticipatory planning.

Return period considerations also inform risk layering:

- Frequent, low-impact hazards (e.g., localized dry spells or flash floods) may be addressed through flexible sectoral budgets or, where available, emergency support coordinated through local authorities, though in practice, most financing is mobilized centrally via DoDMA and partners;
- Moderate but widespread events (e.g., seasonal floods, agricultural droughts) may require national-level funding;
- Rare, high-impact events (e.g., cyclones with catastrophic damage) may necessitate external surge financing or insurance-type instruments.

While detailed actuarial data remains limited, embedding indicative return periods in early action planning helps ensure that funding modalities match the scale, frequency, and urgency of different hazards. These insights will guide future development of a costed AA action plan, including prioritization of actions across sectors.

This approach also complements the NAAF's trigger framework (Chapter 4), where the same hazard indicator, such as a dry spell threshold, could activate different funding streams depending on the return period being used. For instance, a 1-in-2 year dry spell may trigger pre-positioned contingency resources, while a 1-in-5 or 1-in-10 year threshold could activate larger-scale donor or insurance-based instruments. Embedding this flexibility into both trigger design and financing architecture enhances the adaptability and scalability of the anticipatory action system.

6.4 Trigger–Finance Linkages and Disbursement Process

A core strength of anticipatory action lies in the ability to link objective, pre-defined triggers to pre-agreed financing mechanisms. In Malawi, bridging the gap between technical alerting systems and actual fund disbursement is essential to operationalize the AA Framework.

6.4.1 Linking Triggers to Financing Decisions

Once a trigger is met, whether forecast-based (Tier 1) or observational/impact-based (Tier 2), a Joint Technical Validation Meeting is convened by DoDMA in consultation with the AA TWG. This meeting confirms:

- The trigger threshold,
- The geographic scope of activation, and
- The relevant sectors and actions to be implemented.

Following validation, a formal activation notice is issued by DoDMA, which serves as the official trigger for:

- Sectoral implementation of early actions, and
- Financial release processes by relevant funding institutions.

The link between the trigger event and finance release must be seamless to avoid delays that could render anticipatory actions ineffective.

6.4.2 Disbursement Process Flow

Once a trigger is crossed and validated by the AA TWG, the following process is expected:

Trigger validation: A joint technical review is convened (led by DoDMA and relevant technical agencies).

Official alert issuance: DoDMA, in consultation with sector leads, issues an anticipatory activation notice.

Resource mobilization: Funds are disbursed from relevant sources (e.g., NDAF, donor-managed mechanisms, cluster funds) to implementing partners.

Implementation: Sectoral agencies and partners implement early actions based on pre-agreed SOPs.

Monitoring and financial tracking: Expenditure and coverage are tracked and reported, contributing to learning and accountability.

The speed and efficiency of this process depend on clear fund flow arrangements, pre-positioned financing agreements, and readiness at all institutional levels.

6.4.3 Timing Considerations and Constraints

To be effective, anticipatory actions must be implemented within tight time windows. , For rapid-onset hazards such as floods and strong winds, this is often within 72 hours. For drought-related actions, timelines are more variable, with some readiness activities initiated 30–45 days in advance based on seasonal forecasts, while activation actions may occur once impacts are confirmed, often weeks later. This requires that:

- Disbursement protocols are pre-agreed, not negotiated post-trigger;
- Funds are pre-allocated or at least rapidly accessible (e.g., held in standby accounts); and

- Financial and procurement rules are simplified during activation windows.

Without these, even the best trigger systems may fail to translate into real-time protection for at-risk populations.

6.5 Existing and Potential Financing Sources

Anticipatory action in Malawi can be supported through a mix of national, international, and partner-managed financing mechanisms. However, most current funding is geared toward post-impact response rather than pre-impact preparedness. This section identifies existing funding instruments and potential sources that can be aligned with the NAAF.

6.5.1 National Financing Mechanisms

- **National Disaster Appeal Fund (NDAF)**: Currently the main mechanism used to finance emergency preparedness and response in Malawi. Funds are drawn from the Vote of Unforeseen Circumstances, managed through Treasury, and are typically mobilized after disasters occur. While not yet structured for anticipatory action, NDAF could potentially support pre-trigger financing if aligned with the NAAF's validation and activation protocols.
- **National Disaster Risk Management Trust Fund (NDRMTF)** *(under development)*: Envisioned under the DRM Act (2023) as a dedicated funding mechanism for disaster risk management, this fund presents a long-term opportunity to institutionalize predictable financing for both readiness and activation phases. Once operationalized, it could serve as the backbone of Malawi's anticipatory financing system, especially if linked to forecast-based and observational triggers.
- **Local Authority Financing for Anticipatory Action**: While the DRM Act (2023) and decentralization framework provide a legal foundation for sub-national disaster governance, local authorities in Malawi currently lack dedicated contingency or anticipatory action financing. Most preparedness and response resources are centrally managed by Treasury and DoDMA. In the long term, integrating AA into local authority budgets, and advocating for dedicated financing windows, may enhance localized responsiveness. However, until such mechanisms are formalized and resourced, AA implementation at local level will depend on timely central support and coordination.
- **Social Protection Systems**: Malawi's Social Cash Transfer Programme (SCTP) and the Social Support for Resilient Livelihoods Programme (SSRLP) offer scalable platforms for delivering early cash assistance to vulnerable households, especially in drought-affected areas. While not yet fully embedded within AA implementation, they hold strong alignment potential.

6.5.2 Donor and Humanitarian Funding Mechanisms

- **CERF Rapid Response Window**: The UN's Central Emergency Response Fund supports collective multisectoral AA frameworks, releasing pre-arranged funds when triggers are met. This mechanism has supported AA in multiple countries and presents strong potential for large-scale, forecast-based action in Malawi.

- **Start Network Crisis Anticipation Window**: Previously used in Malawi, the Start Fund offers fast AA financing, often disbursing within 72 hours of trigger validation. It is a key enabler of NGO-led implementation.
- **ECHO/EU Crisis Modifiers**: Crisis modifier mechanisms embedded in development projects can be reallocated for early actions when triggers are met, though they require upfront negotiation and flexibility from donor partners.
- **IFRC Disaster Response Emergency Fund (DREF):** The DREF includes a dedicated Forecast-based Action (FbA) window that enables National Societies, such as the Malawi Red Cross Society, to access pre-arranged financing for anticipatory actions before disasters strike. The FbA by the DREF mechanism has supported drought, flood, and cyclone responses globally and provides a structured, evidence-based model for integrating early warning with early action at national level.
- **UNICEF, WFP, and FAO Emergency Pools**: These agencies manage emergency response and resilience funds that can be partially reoriented for anticipatory interventions, especially in health, food security, and nutrition sectors.

6.5.3 Emerging and Innovative Sources

- **Parametric Insurance and Risk Pools**: Instruments like the African Risk Capacity (ARC) provide index-based financial coverage, primarily used for post-impact relief. However, their relevance to anticipatory action is growing, particularly for drought. ARC and OCHA pilot tested an anticipatory insurance product in Malawi and Zambia. The Ministry of Agriculture and DoDMA are currently piloting anticipatory agricultural insurance as part of efforts to strengthen early drought response mechanisms. These initiatives illustrate how innovative risk transfer instruments can complement other financing sources to enable faster and more predictable action.
- **Green Climate Fund (GCF) and Adaptation Fund**: These offer medium- to long-term financing for early warning systems, climate-smart planning, and preparedness infrastructure, all critical enablers of anticipatory action.
- **Loss and Damage Fund:** Established under the UNFCCC, the Loss and Damage Fund aims to support vulnerable countries in addressing the impacts of climate-induced events. As operational modalities are finalized, there may be scope to align parts of Malawi's NAAF, particularly Tier 2 early actions and post-trigger needs, with funding from this mechanism, especially for slow-onset and recurrent hazards such as drought.
- **Global Shield Financing Facility (GSFF):** As one of the three financial vehicles under the Global Shield, the GSFF, managed by the World Bank, supports countries in designing and implementing integrated disaster risk financing packages. These can include anticipatory cash transfers, agricultural microinsurance, or shock-responsive bank guarantees. While Malawi is not yet a pathfinder country under the Global Shield, it may explore future eligibility and alignment.
- **Private Sector and CSR Funding**: Partnerships with telecommunications, logistics providers, and private sector CSR funds may support early warning dissemination, emergency logistics, or innovation pilots under the NAAF.

6.5.4 Shock-Sensitive Social Protection and Insurance Integration

There is growing recognition of the potential for shock-sensitive social protection (SSSP) and climate risk insurance instruments to contribute meaningfully to anticipatory action in Malawi. During stakeholder consultations, there were differing views on whether these should be treated as core financing instruments within the AA Framework or as parallel systems. However, the NAAF adopts a pragmatic and inclusive approach, positioning these mechanisms as integral to Malawi's broader anticipatory ecosystem.

Malawi's SSRLP)includes a shock-responsive window that allows vertical and horizontal expansion of assistance in anticipation of forecasted drought, and is also being explored for flood risk. Similarly, the SCTP has mechanisms for early top-ups triggered by seasonal forecasts. When implemented before impact, these actions directly align with the timing, objectives, and population focus of anticipatory action.

In parallel, parametric insurance instruments such as the ARC provide financial protection based on pre-agreed risk models. While historically used for post-impact payouts, there is growing interest, both globally and in Malawi, in aligning such mechanisms with forecast-based or impact-based triggers for early action, particularly in the context of slow-onset hazards like drought.

Although these systems operate under distinct governance and financing structures, the NAAF recognizes them as complementary and increasingly aligned with national anticipatory action priorities. Their inclusion reflects the NAAF's role as a technical and coordination platform, not a centralized funding instrument, that guides the alignment of multiple actors around shared triggers, readiness timelines, and sectoral SOPs.

Table 16 presents a summary of the existing and potential financing modalities for AA in Malawi.

Table 16: Summary of Proposed Financing Modalities for Anticipatory Action in Malawi

Financing Mechanism	Type	Relevance to NAAF
National Disaster Appeal Fund	Build & Fuel	Currently operational; draws from the Vote of Unforeseen Circumstances. Could support AA with trigger-linked disbursement.
National Disaster Risk Management Trust Fund (planned)	Build & Fuel	Under development per the DRM Act (2023); long-term potential for dedicated AA readiness and activation financing.
Start Fund / Start Network Anticipatory Pillar	Fuel	Previously used in Malawi; ideal for rapid NGO-led disbursement following trigger validation.
UN Central Emergency Response Fund	Fuel	Global mechanism with a strong commitment towards scaling up anticipatory action ; applicable for large-scale activation.
Contingency Emergency Response Component (World Bank)	Fuel	Can be triggered for sector-specific early actions, particularly for agriculture or infrastructure.

ECHO Crisis Modifiers	Fuel	Flexible funds within development grants; require pre-agreed AA triggers and response protocols.
Social Support for Resilient Livelihoods Programme	Build & Fuel	Nationally owned system with a shock-responsive window; supports early cash assistance aligned with AA triggers.
IFRC DREF	Fuel	Global Red Cross mechanism with a dedicated anticipatory window; can support readiness and early activation in Malawi through MRCS.
Sectoral / NGO Emergency Funds (e.g., WFP, Red Cross)	Build & Fuel	Suitable for cluster-specific AA interventions once validated triggers are met.
Parametric Insurance (e.g., ARC)	Fuel (Exploratory)	Provides index-based payouts for drought. Increasing potential to align with forecast-based AA triggers.

6.6 Indicative Fund Flow Arrangement

Below is a generalized illustration of how funds might flow following trigger activation, tailored to the financing source:

6.6.1 National Funds (NDAF / NDRMTF)

1. Trigger validation by DoDMA and AA TWG
2. Activation notice issued by DoDMA
3. MoF authorizes disbursement
4. Funds flow to:
    a. Sector ministries
    b. Local authorities for localized implementation
    c. Pre-approved implementing partners, where applicable
5. Implementing entities roll out early actions per SOPs
6. Financial and operational reporting to DoDMA and MoF

6.6.2 Donor / Partner Funds

1. Trigger validated, with reference to donor-specific protocols
2. Activation request submitted by designated lead (e.g., UN Resident Coordinator)
3. Funds disbursed to:
    a. UN agency or NGO with pre-agreed role
    b. Local partners for direct implementation
4. Monitoring and accountability through donor-specific reporting frameworks

6.6.3 Considerations for Strengthening Fund Flow

To ensure efficiency and timeliness:

- Pre-approval of trigger-based disbursement protocols is essential;

- Annual budgeting should include indicative AA envelopes by sector and local authority;
- SOPs must outline who receives what, when, and how once a trigger is met;
- Coordination structures (e.g., AA TWG and Cluster Leads) must be empowered to fast-track financial decision-making within activation windows;
- Donor and government systems should explore harmonized reporting formats for AA spending.

6.7 Recommendations to Strengthen AA Financing in Malawi

To ensure that Malawi's National Multi-Hazard Anticipatory Action Framework is not only operational but also sustainably financed, the following strategic recommendations are proposed:

6.7.1 Operationalize and align national DRM funds with triggers

Accelerate the establishment of the National Disaster Risk Management Trust Fund and ensure that it includes provisions for trigger-based disbursement protocols for both readiness and activation. In the interim, align the NDAF with AA triggers to enable phased disbursement for pre-impact actions. Alignment with the NDRFS will help ensure sustainability and policy coherence in trigger-linked funding.

6.7.2 Institutionalize AA financing in sector and local authority budgets

Encourage line ministries and local authorities to allocate funding for anticipatory action within their annual budgets, including under DRM, agriculture, health, and education votes. Integration of AA into local authority contingency plans should include basic costing and prioritization of early actions.

6.7.3 Pre-negotiate flexible donor mechanisms despite funding hesitations

Work with donors to embed flexible financing tools, such as crisis modifiers and anticipatory funding windows, into ongoing and new development grants. Mechanisms like the ECHO crisis modifier, CERF Anticipatory Action Window, and Start Fund should be mapped and aligned to national triggers and SOPs to enable rapid disbursement once thresholds are met. While many donors still prioritize post-impact humanitarian funding, these pre-negotiated mechanisms offer a practical bridge to shift investment upstream, enabling Malawi to demonstrate the cost-efficiency and effectiveness of anticipatory approaches.

6.7.4 Strengthen financial readiness and accountability systems

Develop standardized financial tracking templates and accountability protocols for AA fund flows. Sectoral SOPs should include indicative costing, procurement timelines, and financial reporting tools to support transparency and timely implementation.

6.7.5 Develop a costed AA action plan and financing landscape analysis

To inform both government and donor investment, develop a costed AA implementation plan aligned with the trigger-action matrix. This should include a financing landscape analysis to

assess current capacities, identify gaps, and recommend optimal blends of public, partner, and contingency funding for AA scale-up.

7 Institutional Roles, Coordination and Localization

The governance of the NAAF is anchored in Malawi's national disaster risk management system, as outlined in the DRM Act (2023), the National DRM Policy, and the National Resilience Strategy. It provides a framework for acting ahead of disaster impacts through pre-agreed coordination mechanisms, trigger systems, and early actions integrated into existing institutional structures.

Operationalizing the NAAF in Malawi requires both financing and non-financing roles to be clearly assigned across national, sectoral, and decentralized actors. This section outlines institutional mandates, coordination structures, and indicative fund flow mechanisms that underpin readiness and activation phases.

7.1 Roles of Key Institutions

7.1.1 Department of Disaster Management Affairs

- National lead for anticipatory action governance and financing.
- Convenes the AA Technical Working Group (TWG) to validate triggers and guide activation.
- Issues official activation notices and ensures SOP-aligned roll-out of anticipatory actions.
- Coordinates national, sectoral, and local implementation; oversees fund approvals; and ensures accountability to government and donor partners.
- Coordinates sectoral ministries and ensures alignment between financing and early action implementation.
- Represents Malawi in donor coordination platforms related to anticipatory action financing and preparedness planning.

7.1.2 Ministry of Finance and Economic Affairs (MoF)

- Manages the Vote of Unforeseen Circumstances, which funds the National Disaster Appeal Fund.
- Will oversee the establishment and governance of the NDRMTF in line with the DRM Act (2023).
- Authorizes disbursements from national funds to implementing institutions.

7.1.3 Technical Agencies (DCCMS, DWR, MVAC)

- Provide climate, hydrological, and food security data that inform NAAF triggers.
- Validate and confirm hazard thresholds during activation.
- Collaborate with DoDMA on forecast-based and impact-based trigger systems.

7.1.4 Sectoral Line Ministries and Clusters

- Design and cost sector-specific anticipatory actions during pre-season planning.
- Implement early actions upon activation; report on execution and fund utilization.
- Coordinate anticipatory actions through national clusters and sectoral SOPs, ensuring consistency with broader contingency and emergency response mechanisms.
- Coordinate with local authority and community structures to ensure operational relevance and coverage.

7.1.5 UN Agencies, INGOs, and National NGOs

- Provide technical, operational, and financial support for anticipatory action implementation
- Manage or administer anticipatory action-related funding instruments, including pooled funds and rapid response windows.
- Pre-position resources or initiate anticipatory action activities upon official activation.
- Lead community engagement and last-mile delivery, especially in hard-to-reach or high-risk areas.

7.1.6 Local Authorities and DRM Committees

- Through Local Authority DRM Committees (e.g., DDRMCs, CDRMCs), lead local planning, targeting, and coordination.
- Integrate AA into local contingency and development plans.
- Where feasible, advocate for inclusion of AA in local authority budgets, although current financing remains centralized.
- Collaborate with ADRMCs and VDRMCs for implementation, targeting, and local feedback mechanisms.

7.2 Coordination and Decision-Making

DoDMA leads coordination and decision-making under the NAAF. The Anticipatory Action Technical Working Group supports this process by providing technical validation and operational guidance for activation decisions. The AA-TWG is co-chaired by DoDMA and a development or humanitarian partner (currently FAO). Its responsibilities include:

- Reviewing trigger data and confirming the appropriate activation tier, through the Trigger Sub-Committee, which is chaired by DCCMS and co-chaired by a technical partner on a rotational basis (currently WFP).
- Coordinating implementation with cluster leads, local authorities, and humanitarian partners.
- Ensuring alignment with national contingency plans and humanitarian architecture, including the HCT.

Cluster-specific SOPs and the Trigger Log serve as operational tools to guide timely and transparent decision-making. Feedback loops are integrated to refine triggers, targeting, and implementation approaches across seasons.

To enhance transparency, role clarity, and coordination among institutions, particularly where actors may hold overlapping mandates, the use of **5Ws** mapping (Who does What, Where, When, and for Whom) is recommended. This tool, widely used in humanitarian response, can also support anticipatory action planning by clearly defining responsibilities, reducing duplication, and ensuring that early actions are timely, targeted, and well-coordinated.

7.3 Capacity Building and Localization

To institutionalize anticipatory action:

- A national AA training package (Annex 8) should be deployed regularly across sectors and local authorities.
- Local authority DRM committees should receive orientation and simplified tools for planning and implementation.
- Community structures (ADRMCs/VDRMCs) must be supported with refresher training, SOP summaries, and accessible communication channels.

7.4 Mainstreaming AA into Local Development Planning

To institutionalize anticipatory action at the sub-national level, local authorities should be encouraged to:

- Integrate AA triggers and early actions into their contingency plans;
- Include AA cost estimates in local budgeting processes;
- Advocate for pre-arranged financing through national or donor mechanisms to ensure local readiness.

8 Monitoring, Evaluation, Accountability and Learning

8.1 Purpose and Scope of the MEAL System

The Monitoring, Evaluation, Accountability and Learning (MEAL) component of the National Multi-Hazard Anticipatory Action Framework provides a structured approach for tracking performance, assessing effectiveness, and enabling continuous improvement in the design and delivery of anticipatory action in Malawi.

Unlike traditional post-disaster evaluation frameworks, the MEL system for AA is designed to capture the timeliness, relevance, and impact of early actions taken before hazard impact. It ensures that anticipatory interventions are accountable, transparent, and responsive to evolving risk patterns and community needs. The MEAL system is also designed to meet core humanitarian standards of accountability and support the localisation agenda by enabling local authorities, civil society, and community structures to participate in feedback, monitoring, and adaptive learning.

The MEL system applies across both the readiness (Tier 1) and activation (Tier 2) phases and encompasses actors at all levels, from national coordination structures to local implementation bodies. It also provides feedback loops to refine the NAAF over time, ensuring the framework remains contextually grounded and operationally effective.

8.2 Key MEL Objectives

The Monitoring, Evaluation, and Learning system for Malawi's National Multi-Hazard Anticipatory Action Framework is guided by five core objectives, presented in Table 17:

Table 17: MEL Objectives

No.	Objective	Description
1	Monitor timely implementation of early actions	To ensure that readiness and activation actions are implemented within the forecast or observed lead times, and that pre-agreed SOPs are followed. This includes assessing whether actions such as cash distribution, seed delivery, or evacuation support are initiated and completed within the required window.
2	Track operational coverage and inclusion	To assess whether early actions are reaching the intended population groups, particularly vulnerable households identified through pre-registration or local authority-level targeting. This includes attention to gender, disability, and geographic inclusion.
3	Evaluate effectiveness and appropriateness	To determine the extent to which anticipatory actions reduce adverse impacts, improve preparedness, or minimize humanitarian consequences, compared to traditional, post-impact responses. This may include

		comparisons across local authorities, interventions, or hazard events.
4	Strengthen accountability and learning	To document feedback from communities and stakeholders through complaint and response mechanisms, After-Action Reviews, and learning forums. This promotes transparency, continuous improvement, and greater alignment with affected populations' needs.
5	Support adaptive management and framework refinement	To use evidence from each activation to adjust trigger thresholds, SOPs, financing flows, institutional roles, and coordination mechanisms. This supports a dynamic framework that evolves over time based on operational experience and learning.

8.3 Monitoring Mechanisms

Monitoring within the NAAF focuses on ensuring timely and accountable implementation of early actions at each stage of the trigger–action cycle. It is structured across three phases:

8.3.1 Pre-Activation Monitoring (Tier 1 – Readiness Phase)

This phase focuses on tracking preparedness actions initiated once a forecast-based trigger is met but before disaster impact. Key monitoring priorities include:

- Confirmation that vulnerable households have been identified and targeted;
- Verification of pre-positioning of supplies;
- Documentation of preparedness messaging, training sessions, and coordination meetings;
- Status of fund mobilization or internal budget reallocation to support readiness actions.

8.3.2 Real-Time Monitoring (During Activation Window)

Once an activation trigger is validated, this phase ensures early actions are implemented as planned and identifies any operational bottlenecks. Monitoring includes:

- Timeliness and sequencing of interventions (e.g., cash transfer timing, livestock support);
- Verification of delivery points, locations, and coverage;
- Real-time problem solving for logistical constraints or coordination gaps.

8.3.3 Post-Activation Monitoring (Tier 2 – After Early Action Deployment)

This stage assesses immediate results of anticipatory actions. It focuses on:

- What was delivered, to whom, and where;

- Whether early actions reached the intended beneficiaries;
- Basic outcome observations (e.g., livestock survival rates, school continuity, reduced displacement);
- Collection of beneficiary feedback and any complaints or issues raised during implementation.

These insights, summarized in Table 18, feed into After-Action Reviews (AARs) and inform refinements to SOPs and future activations.

Table 18: Monitoring Phases, Focus Areas, and Responsible Actors in Malawi's NAAF

Monitoring Phase	Focus	Key Elements Tracked	Lead Actors
Pre-Activation (Tier 1)	Readiness Actions	• Identification of vulnerable households • Pre-positioning of supplies • Dissemination of forecasts and preparedness messages • Budget/fund readiness	DoDMA, Sector Leads, Local authorities
Real-Time Monitoring	Activation Phase	• Timeliness of action delivery • Coverage and geographic reach • Functionality of coordination systems • Response to bottlenecks	Sector Agencies, DDRMCs, Humanitarian Partners
Post-Activation (Tier 2)	Immediate Results & Process Review	• What was delivered and to whom • Feedback from communities • Early outcome observations • Complaints and grievance reports	DoDMA, Implementing Partners, ADRMCs/VDRMCs

8.4 Evaluation and After-Action Reviews

Evaluation within the NAAF focuses on assessing the effectiveness, relevance, and operational performance of anticipatory actions. It ensures that lessons from each activation inform future improvements in triggers, coordination, and delivery mechanisms.

8.4.1 Rapid After-Action Review

A Rapid After-Action Review (RAAR) should be conducted within 2–4 weeks of each activation. This process brings together key stakeholders, including DoDMA, technical agencies, local authorities, cluster leads, and implementing partners, to review:

- What worked well and what did not;
- Whether actions were triggered on time and delivered as planned;
- Operational challenges and coordination gaps;
- Community feedback and complaints received during implementation.

RAARs serve as the first step in the learning loop and are used to update SOPs, improve targeting approaches, and adjust operational timelines.

8.4.2 Outcome-Level Evaluations

Where feasible, outcome evaluations should be conducted to assess the effectiveness of early actions in reducing humanitarian impact. These evaluations may include:

- Comparison between local authorities where AA was activated and those without AA;
- Analysis of outcome indicators such as livestock survival, food security status, school continuity, reduced displacement, and reduction in response costs;
- Household or community surveys to understand perceived benefits and unintended effects.

Outcome evaluations may be conducted independently or in conjunction with broader post-crisis assessments (e.g., Post-Disaster Needs Assessments, food security reviews by MVAC).

8.4.3 Integration with Existing Review Processes

To ensure coherence, NAAF evaluations should be linked to existing national and sectoral review platforms, including:

- Annual DRM sector reviews led by DoDMA;
- Cluster-specific debriefs or planning sessions;
- Lessons learned reports from humanitarian partners;
- National multi-hazard or food security review forums.

Evaluation findings should be documented in a standard NAAF Learning Report and disseminated to all AA TWG members, government partners, and donors. These reports contribute to adaptive management and strengthen institutional memory for future activations.

8.5 Data Collection and Reporting Responsibilities

A robust data collection and reporting system is essential for the successful implementation and refinement of the NAAF. It enables real-time tracking, accountability, and learning while

ensuring that actions remain evidence-based and responsive to context. Table 19 summarizes the key roles and responsibilities.

Table 19: Roles and Responsibilities

Responsibility	Lead Actor(s)	Supporting Actor(s)	Notes
Trigger monitoring and logging	DCCMS, DWR, MVAC	DoDMA	DoDMA oversees the integration and coordination of data streams; technical generation remains with forecasting entities.
Trigger validation documentation	DoDMA	AA TWG	DoDMA issues formal validation memos; Secretariat supports documentation and communication.
Readiness and activation implementation tracking	DoDMA	Clusters, local authorities, implementing partners	DoDMA monitors implementation status via reports from clusters and local authorities; responsible for national oversight.
Beneficiary feedback and accountability mechanisms	DoDMA and Local Authorities	VDRMCs, ADRMCs, local partners	DoDMA ensures feedback systems are in place and escalated appropriately; local partners operate the frontline mechanisms.
After-action reviews and lessons learned reports	DoDMA	DoDMA, cluster leads, partners	DoDMA convenes and leads AARs with inputs from sectors and NGOs; results feed into AA TWG adaptive review.
MEL reporting and dissemination	DoDMA	AA TWG	DoDMA validates and owns MEL reports; the Secretariat compiles and shares with TWG, donors, and clusters.

8.5.1 Reporting Tools and Templates

The NAAF promotes the use of standardized tools and templates to ensure consistent reporting across actors and levels. While anticipatory action differs from post-disaster response, existing tools from JEFAP, Lean Season responses, and sectoral clusters offer valuable foundations. Where possible, NAAF reporting formats will be adapted from existing tools to enhance alignment and minimize confusion at local authority level. These include:

- *Trigger Log Template* (Annex 3): Based on meteorological and hydrological agency reporting, modeled on existing early warning logs.
- *Early Action Implementation Tracker* (Annex 4): Adapted from 5Ws used in response coordination, adjusted to AA phases and sectors.
- *Post-Distribution Monitoring* (Annex 5): Will consider JEFAP PDM tools for relevant actions (e.g., in-kind distribution).
- *Community Feedback Log* (Annex 6): Built on GRM/CFM practices used in Lean Season and response operations, but simplified for anticipatory rollout.
- *After-Action Review Template* (Annex 7): Standardized template for all actors to reflect on performance and learning after activation.

These tools will be finalized by the AA TWG in collaboration with cluster leads and key partners and integrated into sectoral and local authority-level planning, SOPs, and training.

8.6 Learning Loops and Framework Adaptation

The NAAF is designed to be adaptive and iterative. Learning from each activation, whether successful or constrained, is essential to ensure the framework remains relevant, context-specific, and operationally sound over time.

8.6.1 Learning Mechanisms

Malawi's NAAF promotes institutional learning through the following mechanisms:

- Simulation of co-developed plans: allows for testing of whole system (communication, roles, proposed actions, and enable demonstration of potential impact within short-term investments whether an extreme weather event occurred or not;
- *After-action reviews*: Conducted after each activation, these provide immediate insights into performance and coordination challenges;
- *Trigger performance analysis*: Review of whether triggers were appropriately calibrated (e.g., too sensitive, too late) and how they aligned with observed impacts;
- *SoP refinement workshops*: Sector-specific sessions held to revise timing, roles, and delivery mechanisms based on activation experience;
- *Local authority-level reflection sessions*: Engaging sub-national actors to capture local perspectives and innovations;
- *Annual learning and planning forum*: Convened by DoDMA and the AA TWG to consolidate learning across sectors and local authorities and align with national planning cycles.

8.6.2 Framework Adjustment and Versioning

Insights generated through MEL processes should directly inform the revision and refinement of the NAAF. This includes:

- Updating trigger thresholds and indicator definitions based on new data;

- Adjusting SOPs and early action menus to reflect operational feasibility and cost-effectiveness;
- Revising coordination protocols and institutional roles based on decision-making bottlenecks;
- Documenting changes and maintaining clear version control of the NAAF for transparency.

DoDMA is responsible for maintaining and updating the framework, in consultation with the AA TWG and other stakeholders. The NAAF should be reviewed and revised at least once every two years, or following a major activation or policy change. Updated versions must be formally shared with all relevant actors and integrated into national training, simulation exercises, and planning processes.

8.7 Summary Results Monitoring Framework

To complement the narrative guidance provided throughout this chapter, Table 20 below outlines a consolidated results monitoring framework for Malawi's National Multi-Hazard Anticipatory Action Framework. It presents suggested indicators, data sources, and responsible actors across each of the five core MEL objectives. This results matrix supports consistency in reporting, promotes data-driven decision-making, and facilitates accountability for both implementation and learning.

Table 20: Results Monitoring Framework for Malawi's National Multi-Hazard Anticipatory Action Framework

MEL Objective	Indicator	Disaggregation / Notes	Data Source	Reporting Frequency	Responsible Actor(s)
Monitor timely implementation of early actions	% of early actions implemented before hazard impact	By hazard type, local authority, and sector	Sector action trackers, Local authority reports	During/after each activation	Sector leads, Local authorities, DoDMA
	Average time lag (days) between trigger validation and action start	**For both Tier 1 and Tier 2**	**Trigger logs, SOP trackers**	**After activation**	**AA TWG, DoDMA**
Track operational coverage	**% of pre-identified vulnerable**	**Disaggregated by sex, disability, geographic zone**	**Beneficiary registers, PDMs**	**After activation**	**Implementing partners, ADRMCs/VDRMCs**

and inclusion	households reached				
	% of actions that included gender and disability considerations	Cross-sectoral; based on SOP checklists	SOP review, partner reports	Annual / post-activation	Cluster leads, Gender & Protection TWGs
Evaluate effectiveness and appropriateness	% of communities reporting that AA reduced impacts	Based on community perception	Community feedback tools, PDM	After activation	DoDMA, NGO partners
	% change in key sectoral outcomes (e.g., livestock survival, food security scores)	Requires baseline or comparative data	Sector-specific assessments, MVAC, HEA	Post-activation / annual	Sector leads, MVAC, MoAIWD
Strengthen accountability and learning	% of community feedback cases resolved within 2 weeks	Disaggregated by type (e.g., complaint, question)	AAP/complaint logs	Monthly during activation	VDRMCs, partners, DoDMA
	# of After-Action Reviews (AARs) conducted per year	National and local authority level	AAR documentation	Annually / post-activation	AA TWG, DoDMA
Support adaptive management and framework refinement	# of trigger thresholds or SOPs revised annually	Based on operational learning	AA Framework versioning records	Annual	DoDMA, AA TWG

	% of sectors reporting application of lessons from previous activations	**Measured during annual planning cycle**	**Planning reports, sector reviews**	**Annual**	**Sector focal points, DoDMA**

8.8 Alignment with the National Anticipatory Action Roadmap (2024–2025)

The operationalization of Malawi's National Multi-Hazard Anticipatory Action Framework is guided by the National Anticipatory Action Roadmap (2024–2025), developed under the leadership of DoDMA and the Anticipatory Action Technical Working Group (AA TWG). This roadmap outlines the key milestones, implementation responsibilities, and capacity-building needs required to translate the framework into practice.

The roadmap serves as the national implementation blueprint for anticipatory action, and the NAAF aligns fully with its vision, sequencing, and institutional architecture. In particular, the framework contributes to the roadmap by providing:

- A nationally validated trigger system and activation protocol for floods, agricultural drought, and strong winds;
- A comprehensive repository of early actions, organized by hazard, phase, and responsible sector;
- A structured financing logic and fund flow model, including build and fuel financing options;
- Defined governance, coordination, and decision-making roles across all levels;
- A robust Monitoring, Evaluation, and Learning framework to track performance and enable adaptive learning.

The NAAF and the Roadmap are therefore complementary. While this framework defines the technical and operational foundations for anticipatory action, the roadmap ensures that these are rolled out systematically, including training, SOP development, pilot local authority implementation, and national scale-up.

Stakeholders are encouraged to use both documents together: the NAAF for technical guidance and protocols, and the roadmap for planning, prioritization, and implementation monitoring.

To facilitate operational coherence, Table 21 maps the core elements of the NAAF against the key outcomes and pillars of the National Anticipatory Action Roadmap (2024–2025). This alignment ensures that the technical components of the NAAF are not only embedded in

national strategy but also fully synchronized with ongoing implementation efforts, capacity development initiatives, and coordination structures outlined in the roadmap.

Table 21: Alignment Between the NAAF and the National Anticipatory Action Roadmap

Roadmap Pillar	Roadmap Outcome	Corresponding Component in the NAAF	NAAF Chapter / Section
Pillar 1: Coordination for Anticipatory Action	1.1 Strengthened linkages among DRM coordination platforms	Governance and coordination structures for AA, including the AA TWG and decision protocols	Chapter 7 – Institutional Roles, Governance, and Coordination
	1.2 Coordinated information management and data sharing	Standardized trigger log, MEL reporting tools	Chapter 8 – Monitoring, Evaluation, and Learning
	1.3 Integration of cross-cutting issues and social protection linkages	Guiding principles (inclusivity, AAP), beneficiary targeting, linkages with SSRLP	Chapters 2.3 and 5.4
Pillar 2: Harmonised Trigger Mechanisms	2.1 Validated and coordinated trigger mechanisms	Two-tier hybrid trigger system for floods, agricultural drought, and strong winds	Chapter 4 – Triggers and Thresholds
	2.2 Enhanced institutional capacity for AA	Nationally-led trigger setting process, integration of DCCMS, DWR, MVAC	Chapter 4.3 – Trigger-setting Methodology
Pillar 3: Sustainable and Predictable Funding	3.1 Coordinated AA financing across stakeholders	Fund flow design, build vs. fuel finance model, recommendations for financing reform	Chapter 6 – Financing Mechanisms
	3.2 Resource mobilization strategy and integration into DRM Trust Fund	Mapping of funding sources, alignment with DRM Fund and CERC modalities	Chapter 6.5 – Existing and Potential Financing Sources
Pillar 4: Evidence-Based Advocacy and Awareness	4.1 Use of evidence and data to inform AA scale-up	MEL framework, After-Action Reviews, Outcome Evaluations, learning loops	Chapter 8 – Monitoring, Evaluation, and Learning
	4.2 Policy integration and system-wide uptake of AA	Alignment with DRM Policy, Act, NRS, sector plans; institutionalization pathways	Chapter 1.4 – Alignment with national DRM policies

8.9 Operationalization through Sectoral SOPs

To ensure the NAAF translates effectively into field implementation, each sector and local authority will be supported to develop SOPs aligned with the pre-agreed early actions defined in Chapter 5.

While the NAAF provides the technical foundation, including trigger thresholds, implementation timelines, lead responsibilities, and coordination pathways, SOPs serve as practical, sector-specific tools for turning these into field-level action.

SOPs will:

- Translate national-level early actions into step-by-step operational guidance;
- Clarify local authority and community-level roles, timing, and sequencing for each action;
- Provide checklists, decision trees, and reporting formats to facilitate real-time implementation;
- Ensure that each sector and local authority team knows what to do, when to do it, and who to coordinate with once a trigger is met.

Each SOP will be hazard-specific and developed through a participatory process involving line ministries, local authority officers, humanitarian partners, and local DRM committees. The SOPs will be living documents, reviewed and updated after each activation based on lessons learned.

A generic SOP template has been included in Annex 1 to support sectoral actors in adapting early actions into operational procedures. A sample SOP, focused on emergency water trucking for drought-affected areas, is also provided in Annex 2 to illustrate how these templates can be customized. All sectors and local authorities are encouraged to adapt these tools based on context, resource availability, and lessons learned during implementation.

Annex 1: Generic SOP Template for Sectoral Early Actions

SOP Element	Description / Content
1. Hazard Type	Specify the hazard (e.g., Agricultural Drought, Flood, Strong Winds)
2. Early Action	Name and description of the pre-agreed action (e.g., "Distribute drought-tolerant seeds")
3. Activation Tier	Tier 1 (Readiness) or Tier 2 (Activation)
4. Trigger Threshold	Brief description of the trigger (e.g., "SPI ≤ -1.5 over 4 weeks")
5. Geographic Focus	Local authority(s) or specific zones where this SOP applies
6. Target Groups	Criteria for targeting (e.g., smallholder farmers with no irrigation, flood-prone settlements)
7. Lead Institution(s)	Main responsible agency/cluster
8. Supporting Partners	NGOs, UN agencies, or local government departments assisting
9. Implementation Steps	Step-by-step actions to be taken (with indicative timelines)
10. Resources Required	Key inputs: personnel, materials, logistics, funds
11. Pre-positioning / Readiness Activities	What needs to be in place before the trigger (e.g., training, procurement)
12. Monitoring and Reporting	Who monitors, what data is reported, and reporting frequency
13. Accountability / AAP Mechanisms	Channels for feedback, complaints, inclusion tracking
14. Key Contacts	Names and phone numbers of focal points (national and local authority level)

Annex 2: Sample SOP for Anticipatory Action

Introductory Note to Annex 2: The sample SOPs presented here illustrate sector-specific activation protocols under the NAAF. However, anticipatory action in Malawi is inherently multi-sectoral. Upon activation, coordination across sectors is required to avoid duplication, ensure synergies, and optimize resource allocation. These SOPs are therefore designed to operate within the broader AA coordination mechanisms led by DoDMA and the AA Technical Working Group.

Sector: WASH / DRM

Hazard: Agricultural Drought

Action Package: Community Water Access and Hygiene Preparedness in Drought-Affected Areas

SOP Element	Description
1. Hazard Type	Agricultural Drought
2. Early Action Package	1. Repair and rehabilitate non-functional boreholes 2. Pre-position and distribute emergency WASH kits 3. Conduct hygiene awareness and drought preparedness campaigns 4. Monitor water quality at critical points 5. **Water conservation promotion**: Disseminate messages and materials on water-saving practices at community and institutional levels.
3. Activation Tier	● Tier 1: Readiness (for messaging and borehole mapping) ● Tier 2: Activation (for repairs, distribution, water quality monitoring)
4. Trigger Threshold	Confirmed rainfall deficit >30% for ≥3 weeks during the cropping season in two or more TAs per local authority, validated by DCCMS and DWR
5. Geographic Focus	Balaka, Ntcheu, Chikwawa, Nsanje, and other drought-prone local authorities with history of borehole failure and low water access
6. Target Groups	● Households without access to safe water ● Households with pregnant/lactating women and children under five ● Livestock-keeping households near dried-up sources ● Institutions such as schools and health care facilities
7. Lead Institution(s)	DWR, Local authority WASH Officers, Local authorities
8. Supporting Partners	UNICEF, Red Cross, WASH NGOs, Community Water Point Committees
9. Implementation Steps	1. Validate and map borehole functionality using updated local authority WASH database

	2. Engage local contractors and Area mechanicsto initiate repairs in priority sites 3. Distribute emergency WASH kits (soap, jerry cans, chlorine tablets) 4. Disseminate hygiene messaging via radio, mobile, and community volunteers 5. Conduct water quality testing and ensure water treatment where needed
10. Resources Required	● Spare parts for boreholes ● WASH kits and hygiene materials ● Transportation ● Test kits for water quality ● Water treatment chemicals ● Community mobilizers and IEC materials
11. Pre-positioning / Readiness Activities	● Maintain a real-time borehole status dashboard at local authority level ● Pre-identify contractors and signing of MoUs ● Pre-position WASH kits/ supplies at zonal warehouses ● Train VDRMCs/ADRMCs on hygiene messaging and borehole prioritization
12. Monitoring and Reporting	● Daily repair progress reports by contractors/ Area mechanics ● Distribution tracking logs for WASH kits/ supplies ● Weekly status updates to Local authorities and DoDMA ● Beneficiary feedback collection through VDRMCs
13. Accountability / AAP Mechanisms	● Community feedback meetings ● Mobile hotline for complaints ● Posting repair and distribution schedules in public areas
14. Key Contacts	DWR National WASH Coordinator – +265 Ntcheu District WASH Officer – +265 UNICEF WASH Focal Point – +265 Borehole Contractor – +265 XXX

Annex 3: Trigger Log Template

Date	Hazard Type	Indicator Monitored	Threshold Crossed (Y/N)	Affected Local authority(ies)	Lead Agency	Alert Issued (Y/N)	Remarks
YYYY-MM-DD	Flood	Rainfall Forecast >150mm	Y	Chikwawa, Nsanje	DCCMS	Y	Confirmed by DWR and sent to DoDMA

Annex 4: Early Action Implementation Tracker

Action Description	Hazard	Tier	Local authority(s)	Lead Institution	Status	Start Date	Completion Date	Remarks
Pre-position shelter kits	Flood	Tier 1	Nsanje, Phalombe	DoDMA	In Progress	YYYY-MM-DD	YYYY-MM-DD	Awaiting kits from supplier
Emergency seed distribution	Drought	Tier 2	Balaka	MoA	Completed	YYYY-MM-DD	YYYY-MM-DD	Verified by PDM

Annex 5: Post-Distribution Monitoring Tool

Purpose: This tool is designed to assess the timeliness, appropriateness, effectiveness, and outcomes of anticipatory actions implemented prior to a hazard event. It also enables learning to inform future activations.

Section A: General Information

- Date of visit:
- Local authority/Location:
- Implementing partner:
- Type of early action:
- Trigger activated (Tier 1 or Tier 2):
- Hazard type:
- Date of activation:

Section B: Beneficiary Demographics

1. **Gender of respondent:** [Male / Female / Other]
2. **Age category:** [<18 / 18–35 / 36–60 / >60]
3. **Household type:** [Female-headed / Elderly-headed / Disabled-headed / Other]
4. **Number of household members:**

Section C: Timeliness and Appropriateness

1. Did you receive the support before the disaster occurred? [Yes / No]
2. Was the timing appropriate to help you prepare or reduce harm? [Yes / No / Not sure]
3. Were you informed in advance about what support to expect? [Yes / No]
4. How useful was the support provided? [1 = Not Useful; 5 = Very Useful]
5. Was the type of support appropriate for your needs? [Yes / No – Please explain]
6. Did the support reach all eligible members in your community? [Yes / No / Don't know]

Section D: Outcomes and Impact

1. Do you believe the support helped reduce the impact of the disaster? [Yes / No – Please explain]
2. What specific outcomes did you experience? *(tick all that apply)*
    - ☐ Improved household food security
    - ☐ Reduced displacement
    - ☐ Improved access to safe water
    - ☐ Protection of productive assets (e.g., livestock, tools)
    - ☐ Continued school attendance
    - ☐ Better hygiene or health outcomes
    - ☐ Reduced need for humanitarian aid after the disaster
3. If you had not received this support, what would have been the likely impact? [Open-ended]
4. Were there any unintended effects (positive or negative)? [Open-ended]

Section E: Accountability and Feedback

1. Were you given a chance to provide feedback or complaints? [Yes / No]
2. Did you feel respected and informed during the process? [Yes / No]
3. Suggestions for improving the support or process next time: [Open-ended]

Section F: Enumerator Observations

1. Observations on distribution process, community dynamics, or gaps: [Open-ended]
2. Was there any evidence of exclusion or inclusion errors? [Yes / No / Explain]
3. Recommendations for future AA activations in this area: [Open-ended]

Annex 6: Community Feedback Log

Date	Source (e.g., VDRMC, SMS)	Issue Reported	Location	Action Taken	Response Provided
YYYY-MM-DD	SMS hotline	Did not receive seeds	TA Kalembo, Balaka	Verified by extension worker	Seeds delivered 2 days later

Annex 7: After-Action Review Template

Purpose: This template supports structured learning and accountability following the implementation of anticipatory actions. It enables government, partners, and communities to reflect on effectiveness, coordination, inclusivity, and lessons for future activation. The tool promotes evidence-based adaptation of the NAAF and aligns with global best practice, including the Fiji multi-stakeholder AA evaluation model.

1. **Activation Summary**
   - 1.1. Hazard type:
   - 1.2. Trigger level (Tier 1 or Tier 2):
   - 1.3. Trigger source and validation date:
   - 1.4. Geographic coverage (Local authorities, TAs):
   - 1.5. Lead agency and implementing partners:
   - 1.6. Date(s) of intervention:

2. **Section 2: Process Review**
   - 2.1. Timeliness
     a. Were early actions implemented before the hazard impacted the area? [Yes / No – Explain]
     b. Did delays occur? What caused them?
   - 2.2. Coordination and Decision-Making
     a. How effective was coordination among national, sectoral, and local authority actors?
     b. Were roles and responsibilities clear across agencies/clusters?
     c. Were there gaps or duplications in implementation?
   - 2.3. Targeting and Inclusion
     a. Were targeting criteria applied as per SOPs?
     b. Were marginalized or vulnerable groups (e.g., female-headed households, persons with disabilities) adequately reached?
   - 2.4. Communication and Community Engagement
     a. How were communities informed and engaged before and during the intervention?
     b. Was feedback collected from communities and used in real time?

3. **Section 3: Outcome and Impact Reflection**
   - 3.1. Did anticipatory action reduce humanitarian impacts?
   - 3.2. What were the most significant positive outcomes reported by beneficiaries or observed?
   - 3.3. Were there unintended or negative outcomes?
   - 3.4. Was there evidence of cost savings or improved efficiency compared to traditional response?

4. **Section 4: Learning and Recommendations**
   - 4.1. What worked well and should be repeated?
   - 4.2. What challenges need to be addressed before the next activation?
   - 4.3. What specific adjustments are recommended to:
     a. Trigger validation protocols

b. SOPs and early action packages
c. Fund release processes
d. Local authority-level coordination
e. Monitoring and reporting tools

4.4. Were there any innovations, partnerships, or best practices worth scaling?

5. Section 5: Follow-Up Actions

5.1. List agreed next steps, responsible entities, and timeframes for:

- Framework revision
- SOP or trigger refinement
- Training or capacity support
- Community feedback integration
- Donor or policy engagement

6. Section 6: AAR Logistics

6.1. Date of review meeting:
6.2. Facilitator/Chair:
6.3. Participants (agencies/roles):
6.4. Method used: [Meeting / Remote consultation / Focus group]
6.5. Documentation and submission point:

Annex 8: Core Training Package for Anticipatory Action

Purpose: This training package is designed to build institutional and operational capacity for effective implementation of the Malawi National Multi-Hazard Anticipatory Action Framework. It aims to ensure that all stakeholders, from national to community level, have a shared understanding of anticipatory action principles, procedures, and coordination mechanisms.

Target Audience:

- DoDMA staff
- Sectoral ministries and national cluster leads
- Local authorities and their Disaster Risk Management Committees
- Community-level DRM committees (ADRMCs/VDRMCs)
- UN agencies, NGOs, Malawi Red Cross Society (MRCS), and implementing partners

Core Training Modules:

1. **Introduction to anticipatory action**
    a. Definitions, global best practices, and the rationale behind the Malawi NAAF
2. **Trigger system and activation protocols**
    a. Forecast-based and observational triggers
    b. Validation procedures and activation decision-making
    c. Tier 1 and Tier 2 distinctions
3. **Design and implementation of early actions**
    a. Sector-specific SOPs
    b. Resource planning, targeting, and timeliness
    c. Inclusion and accountability considerations
4. **Coordination and governance structures**
    a. Roles of DoDMA, technical agencies, and clusters
    b. Functioning of the AA Technical Working Group
    c. Local-level roles and inter-sectoral coordination
5. **Monitoring, evaluation, accountability, and learning**
    a. Real-time monitoring, post-distribution monitoring, after-action reviews
    b. Feedback loops for adaptive learning
    c. Tools and templates
6. **Simulation exercises and scenario-based planning**
    a. Tabletop drills and live simulations to test activation protocols
    b. Lessons learned integration
    c. Community sensitization strategies

Delivery Format:

- National Training of Trainers (ToT) sessions for sector and local authority focal points
- Local authority-level rollouts coordinated by DoDMA and development partners
- Refresher trainings post-activation or annually to maintain readiness

Duration:

- Standard: 3–5 days

- Modular adaptation possible for refresher or sector-specific sessions

Responsible Entities:

- Lead Coordination: DoDMA and the AA Technical Working Group
- Technical Support: Sector ministries, FAO, UNICEF, WFP, MRCS, Start Network, and NGO partners
- Delivery Support: DRM training institutes, humanitarian education providers, and local facilitators

Remarks: Training materials should be periodically updated to reflect lessons from activations and revised SOPs. All modules should integrate gender, disability inclusion, and localization principles. A training tracking system is recommended to monitor reach and retention across local authorities.

Annex 9: Key Reference Documents for the NAAF

A. National Policies, Frameworks, and Tools

Document Title	Source	Year	Notes
Disaster Risk Management Act	Government of Malawi / DoDMA	2023	Legal basis for DRM, including risk financing and anticipatory action
Disaster Risk Management Policy	Government of Malawi / DoDMA	2024	Outlines national DRM priorities, including early warning and anticipatory approaches
National Resilience Strategy (2018–2030)	Government of Malawi	2018	Long-term strategy for resilience, disaster preparedness, and sustainable development
Malawi 2063 Vision	National Planning Commission	2020	National development vision with resilience and climate risk priorities
Malawi Disaster Risk Financing Strategy	Ministry of Finance / DoDMA	2021	Framework for financial preparedness, risk layering, and crisis response
Anticipatory Action Roadmap for Malawi	DoDMA / Partners	2024	Strategic plan to institutionalize anticipatory action in Malawi
National Contingency Plan	DoDMA	2024-2025	Seasonal multi-hazard preparedness and response plan
District Contingency Plans	Local Authorities / DoDMA	2015–2024	Localized contingency planning for flood, drought, and storm risks
Multi-Hazard Risk Profiles	DoDMA / World Bank	2024	Updated district-level hazard and vulnerability data (supersedes 2015 Risk Atlas)
Early Warning Bulletins	DCCMS / DoDMA	2023–2024	Seasonal and event-based alerts for weather and disaster risks
Integrated Food Security Phase Classification (IPC) Reports	MVAC / Partners	2023–2024	Food security trends informing AA targeting and activation decisions
2021–2022 Dry Spells Anticipatory Action Framework	DoDMA / WFP / FAO	2022	First national-level AA pilot; provided evidence for NAAF development
Primary School DRM Sourcebook	Ministry of Education / UNICEF	2022	Disaster risk awareness and preparedness resource for lower primary schools
Secondary School DRM Sourcebook	Ministry of Education / UNICEF	2022	Companion resource for DRM education at secondary school level

Social Protection Policy	Ministry of Finance and Economic Planning	2025	Outlines adaptive and shock-responsive social protection systems
Nutrition Policy	Department of Nutrition	2023	Includes emergency preparedness and nutrition response mechanisms
Multi-Hazard Risk Atlas for Malawi	Department of Disaster Management Affairs	2024	Updated atlas offering district-level hazard, exposure, and vulnerability data for early warning
Predicting the Impacts of El Niño for Anticipatory Action: Findings from a HEA Assessment (Updated)	Save the Children	2024	Analysis of El Niño scenarios and early action targeting in Southern Africa
Prototype Trigger Selection – 20 May 2025 Draft	WFP	2025	Draft drought trigger thresholds and validation methodology for selected districts
Simplified Early Action Protocol for Pluvial Floods – Malawi Red Cross Society	MRCS / IFRC	2025	Community-based flood early action protocol adapted in the NAAF
Malawi Anticipatory Action: Process Learning on Trigger Development', learning report	Gettliffe, E	2022	Case study of Malawi's 2022–23 dry spell anticipatory actions's trigger development; evaluation insights for NAAF development

B. Regional and Global Frameworks and Guidance

Document Title	Source	Year	Notes
Mozambique Cyclone Anticipatory Action Framework	IFRC	2025	Regional model for cyclone-triggered anticipatory action
Kenya Anticipatory Action Roadmap	OCHA / Partners	2024–2029	National plan linking triggers, financing, and early actions
Red Cross Red Crescent FbF Practitioners Manual	IFRC	2021	Global guidance on Forecast-based Financing implementation
Anticipatory Action for Conflict: Tools and Approaches	Start Network	2023	Framework for AA in conflict settings, including crisis modifiers and pooled funding
FAO–WFP Anticipatory Action Strategy	FAO / WFP	2023	Joint strategy for agricultural and food security early actions
Anticipatory Action: A Child-Centered Guide	Save the Children	2024	Guidance on integrating children's needs into anticipatory action and DRR
ASEAN Framework on Anticipatory Action in Disaster Management	ASEAN	2022	Regional AA policy for Southeast Asian countries

Southern Africa Regional Anticipatory Action Roadmap	FAO / WFP / IFRC	2022	Strategic AA roadmap for Southern Africa, including Malawi
Central Emergency Response Fund Life-Saving Criteria	United Nations OCHA	2023	Global criteria guiding humanitarian and anticipatory funding decisions under CERF