



**POLICY BRIEF - AFRICA INSTITUTIONAL
AND OPERATIONAL FRAMEWORK FOR
MULTI-HAZARD EARLY WARNING AND
EARLY ACTION
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Abstract

Africa's institutional and operational strategic framework to implement Multi-Hazard Early Warning System and Early Action aims to reduce disaster losses by ensuring that early warning systems at Continental, Regional, and Member State levels are fully coordinated to trigger effective early action. The structures and guidance set out in the Framework will assist decision makers and sectoral specialists in building capacity and directing investment in early warning and early action systems, helping to prevent many small emergencies from developing into disasters in the future.

Investment in early warning and early action saves lives, protects development gains, livelihoods, and the environment, and reduces the cost of disaster response and losses. However, warnings can only be effective if they are received in good time by those required to act, and if those required to act know

what they should do. Warnings that don't reach those required to act, or that don't trigger effective early action, will have failed. Hence, all warning systems must include four critical components that require harmonisation and coordination: (1) Risk Knowledge; (2) Monitoring and Warning Services; (3) Warning Dissemination and Communication; and (4) Preparedness and Response Capability.

Delivery of these separate components is complicated by the fact that they are generally the responsibility of separate sectoral departments or bodies, or are delivered at different jurisdictional levels. The MHEWS Framework sets out a seven-year development program to address these challenges, establishing the structures necessary to ensure effective coordination between and across the various bodies and organisations responsible for early warning components.

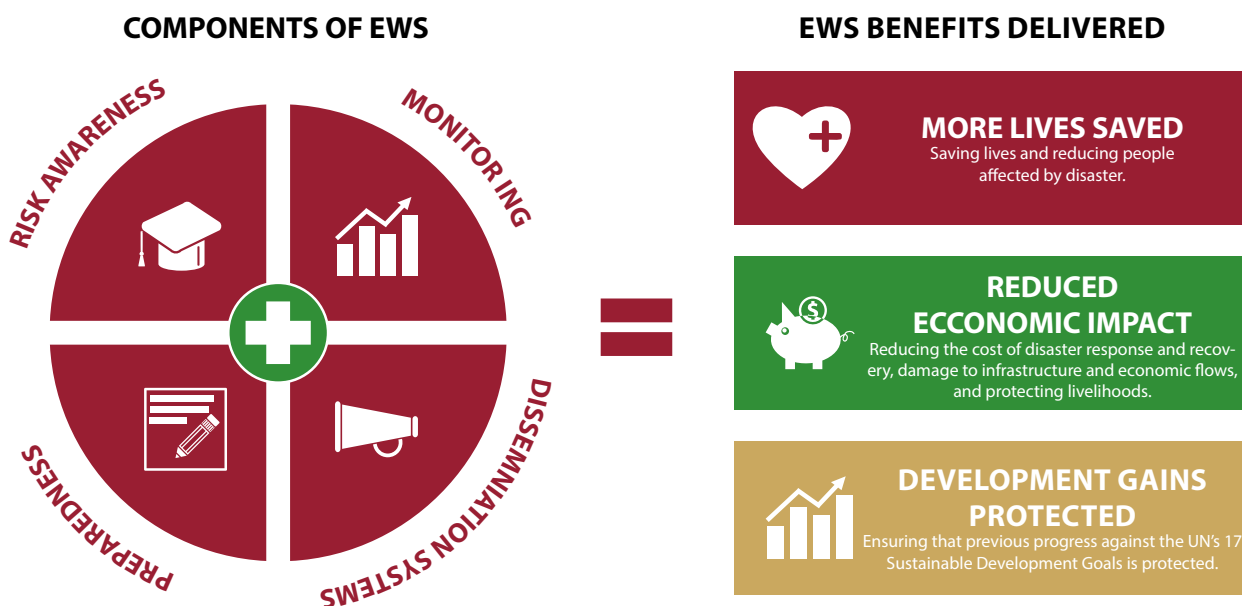


Figure 1 EWS components and benefits delivered

The MHEWS Framework was developed in consultation with stakeholders and sectoral experts within the AUC, RECs, and national governments, in addition to international partners such as the UN. It does not change the role of existing sectoral organizations, units, or departments, at MS, REC, and Continental level. Neither does it duplicate the work being undertaken through the many capacity building programmes supported by international partners such as the UN, WMO and others. Rather, it is designed to support those existing organizations and capacity building

initiatives by establishment of a more structured process for the exchange of data and information across sectoral and jurisdictional boundaries and the establishment of MHEWS Coordinators and multi-disciplinary early warning technical working groups (EW-TWGs) at Continental, Regional and Member State level. MHEWS Coordinators and EW-TWGs will assist in capacity building by ensuring effective sharing of best practices, and by identifying opportunities for reducing costs or attracting investment through partnership working.

Background and Purpose of the MHEWS Framework

Disasters remain a yearly challenge for many African states. The African Union Commission (AUC) has established that disaster events are increasing year on year; the continent is experiencing increasing occurrences of disasters associated with climate and weather-related phenomenon. As a result, the impact of disaster in terms of lives lost and economic losses is also significantly increasing.

Early warnings that facilitate effective early action can start to tackle these dangerous trends – saving lives and livelihoods, reducing economic impacts, protecting development gains and the environment.

The proposed MHEWS Framework has been anchored on existing legislative, policy or framework structures and institutional arrangements of the AUC. The establishment of effective Early Warning Systems has been a goal of the African Union since 2015, when a target was established to “substantially increase availability of and access to Multi-Hazard Early Warning Systems and disaster risk information and assessment to the people by 2030”. This target accords with the aims of the Sendai Framework for Disaster Risk Reduction 2015-2030.

Adoption of the MHEWS Framework and delivery of the planned seven-year development programme will assist in delivery of these commitments.

Disasters do not respect jurisdictional boundaries and are increasingly having transboundary and cascading impacts. The Sendai Framework therefore urged a paradigm shift in how risk information is developed, assessed, and utilized in Multi-Hazard Early Warning Systems, disaster risk reduction strategies and government policies.

This paradigm shift requires effective coordination between different sectoral warning system providers, and between Member States, Regional Economic Communities, and at the Continental level, if these dangerous trends are to be addressed.

In recent years many Member States have made significant advances in early warning provision for specific hazards such as flood and drought, supported by Continental and Regional bodies and international partners. The MHEWS Framework proposes mechanisms to share best practices and learning to assist MS in improving their national and sub-national early warning and early action systems, whilst at the same time, establishing structures for more effective transboundary data exchange and warning systems.

Virtually all assessments of existing early warning and early action systems in Africa have identified capacity and capability gaps, in terms of human resources, systems, and infrastructure such as hazard monitoring equipment or warning communication networks. The coordination and information sharing structures set out in the MHEWS Framework are designed to assist Member States and Regional Economic Communities in addressing these gaps by identifying opportunities to share best practices, make best use of technical resources, and reduce duplication of effort. Whilst this alone will not address all of the current gaps identified, it will assist in identification of potential solutions and in the development of business cases for investment. Provision of support through technical working groups will also provide warning system operators with access to a pool of technical expertise and advice that may not be immediately available to them.

International Guidelines for development of MHEWS

International guidance on Early Warning system development was updated in 2017 by the International Network for Multi-Hazard Early Warning Systems (IN-MHEWS) to include revisions to acknowledge the Sendai Framework and incorporate the recognized benefits of

Multi-Hazard Early Warnings Systems. The 2017 MHEWS Checklist identifies four essential components of any Early Warning System that need to be in place and fully harmonised to ensure that effective warning and early action can be taken:

Disaster risk knowledge

- Are key hazards and related threats identified?
- Are exposure, vulnerabilities, capacities, and risks assessed?
- Are roles and responsibilities of stakeholders identified?
- Is risk information consolidated?

Detection, monitoring, analysis and forecasting of the hazards and possible consequences

- Are there monitoring systems in place?
- Are there forecasting and warning services in place?
- Are there institutional mechanisms in place?

Warning dissemination and communication

- Are organizational and decision making processes in place and operational?
- Are communication systems and equipment in place and operational?
- Are impact-based early warning communicated effectively to prompt action by target groups?

Preparedness and response capabilities

- Are disaster preparedness measures, including response plans, developed and operational?
- Are public awareness and education campaigns conducted?
- Are public awareness and response tested and evaluated?

Figure 2 Four Essential Components of an MHEWS Source: Multi-Hazard EWS Checklist 2017.

All warning systems, regardless of the hazard they are monitoring, require the same four components. Whilst the technical arrangements for hazard monitoring will differ for each hazard type, there are significant opportunities for data sharing, collaboration and partnership working in delivery of remaining components across different hazard types any across jurisdictional boundaries.

Partnership working on MHEWS delivery across sectoral and jurisdictional boundaries can help to reduce duplication of effort, reduce the cost of warning system provision, and deliver more reliable warnings that take full account of the cascading effects of a disaster.

Continental MHEWS Framework

Cognizant of the fact that issuing of Early Warning is a primary responsibility of Member States, the AU Commission and RECs initiated the development of the MHEWS Framework with the aim of providing operational guidance on Multi-Agency and Multi-Sectoral coordination and communications and the objective to prevent and mitigate disaster situations through effective early action triggered by accurate forecasts and warnings. These early actions will be assisted by creation of an Africa MHEWS Situation Room by AUC, that will provide assistance in data and information exchange at Continental level. It is proposed that existing emergency operation centres or similar at REC and MS levels undertake a similar role.

Early Warning Systems, even for a single hazard such as flooding, are complex and require close coordination between multiple partners including those responsible for climate services, conflict prevention, peace building and security, health, food and water security, and disaster risk management, to ensure that all relevant data is exchanged, and necessary warning system components are in place. Development of warning systems that must address multiple hazards and ensure the effective exchange of data and information across jurisdictional boundaries, adds additional layers of complexity. Therefore, development of a Continental MHEWS must be viewed as a long-term process requiring extensive Stakeholder engagement across multiple sectors, rather than a short term or one-off activity.

During the proposed seven-year MHEWS development programme, there will inevitably be lessons learned and further developments in Early Warning technology. Therefore, the programme requires sufficient flexibility to allow plans to adapt

and respond to developments and opportunities presented. As reiterated by stakeholders from MSs, whilst MHEWS Framework should set out a roadmap of activities intended to enhance and further develop existing warning systems, it should be adaptable, with improvements brought forward wherever possible. The seven-year development programme also provides opportunity for the draft long-term model for MHEWS delivery, beyond the seven-year period, to be further reviewed and refined by stakeholders before final proposals are presented to decision makers for consideration. This long term and adaptive approach will both support immediate improvements in existing warning system provision and provide structures through which Continental Partners can work toward delivery of the AUCs Commitment to establish a Continental MHEWS by 2030.

This Multi-Year Programme of engagement and capacity building will be delivered in three distinct stages. This is designed to allow time for the necessary discussion and Stakeholder engagement on key issues before decisions are taken. It also provides the time necessary to establish any supporting structures that may be required at MS, REC and Continental levels. The Programme is set out to meet the AUCs commitment to delivery of MHEWS by 2030 but includes annual review by Decision Makers so that parts of the Programme can be accelerated and delivered more quickly if circumstances permit.

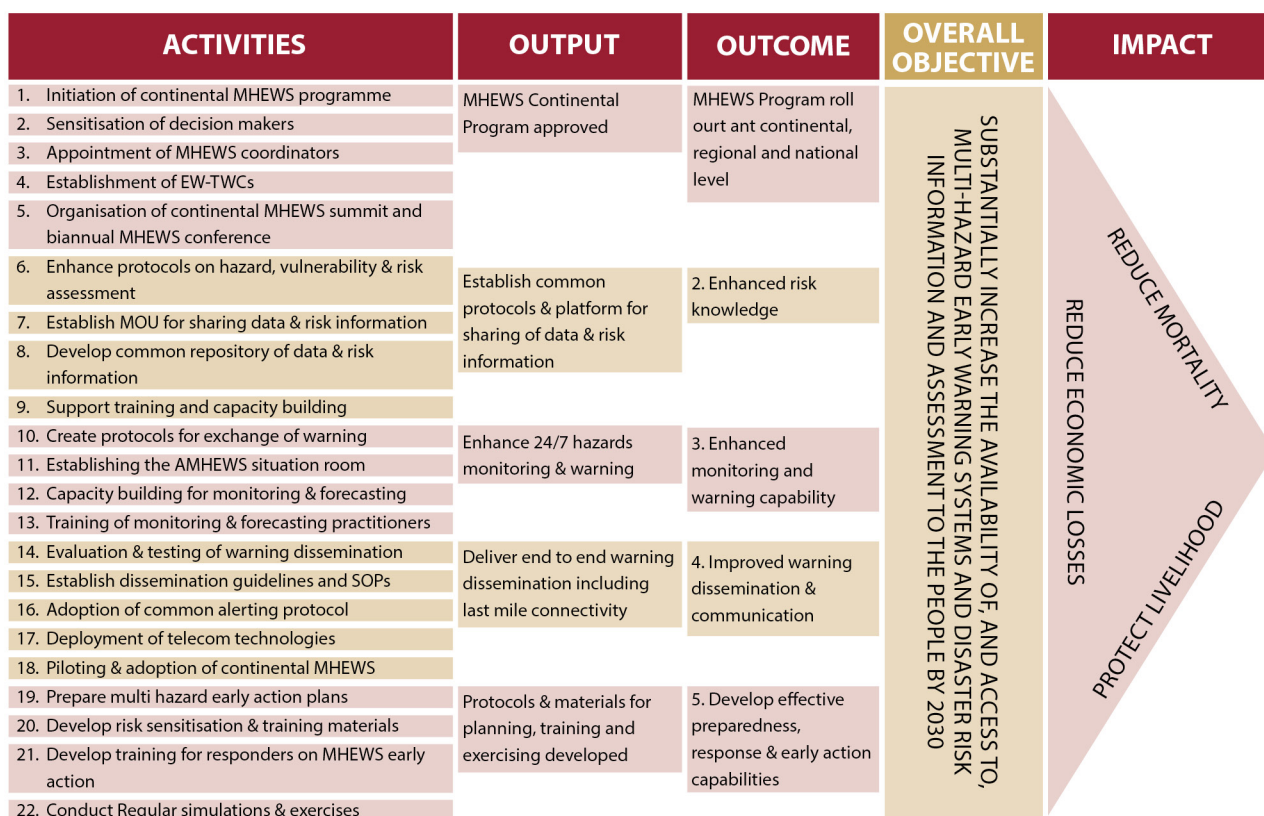


Figure 3 Overview of MHEWS Programme

The Programme sets out 22 generic activities designed to contribute toward the delivery of five outputs and specific objectives. Delivery of those outputs and objectives will, in turn, lead to delivery

of the overall objective to deliver MHEWS by 2030. The list of activities, outputs, specific and overall objectives, and resulting impacts anticipated, are set out below.

Overview of the 7-Year MHEWS Development Programme

Stage 1 MHEWS Start Up Phase (2 years)

Establishment of decision-making and Technical Working Groups at MS, REC and Continental levels to guide MHEWS development. In years 1-2, the priority will be to sensitise decision makers and start work on supporting capacity building for existing sectoral Early Warning Systems, concentrating on the enhancement of natural hazard systems as a 1st step toward MHEWS delivery. It is important to note that while the 7-year programme sets out the minimum progress expected in developing an MHEWS focused on natural hazards, it should not limit stakeholders at the continental, regional and national level and their partners from exploring opportunities to strengthen integration between EWS for natural hazards with those for biological hazards/epidemics/pandemics as well as conflicts. These would contribute to the establishment of a truly multi-hazard early warning and early action system to support risk-informed decision-making across the continent, especially in contexts where these multiple risks interact, impacting communities and economies.

This will be assisted by the creation of an Africa Multi-Hazard Early Warning System Situation Room (AMHEWS Situation Room) that will assist in coordinating the exchange of Early Warning data and information. In the first two years, the Programme should have a light management structure as most activities will be related to sensitising decision makers and building of partnerships at Continental, Regional and National levels. AUC will play the role of overall Programme Management Coordinator based on the annual work plans. At least two consultation meetings per

year will be organized, aligned with the timing of Africa Working Group, to exchange approaches and adapt interventions to avoid overlap and ensure that there is no duplication and that the Programme achieves the results planned in the work plan document.

The Continental MHEWS to be developed through the 7-year programme aims to provide strong linkages between situation rooms at continental, regional and national levels, and across sectoral warning systems (including health and conflict), backed by an institutional and legal framework. However, for this to be successful, alongside the development of the Continental MHEWS, there is a need for continued efforts and investments from Member States and their partners to strengthen the National and Sub-National MHEWSs. Identification of these needs should be further explored during Stage 1 of the 7-year program.

Expected output:

Institutional architecture for the Continental MHEWS Programme is fully established. Technical Working Groups and information exchange mechanisms are established, and clarification of roles and responsibilities provided, based on guidance from this framework. Projects for further development of specific Early Warning capabilities are developed with clear outputs at each stage and implementation commenced.

Stage 2 MHEWS Development Phase (3 years)

Continued development and capacity building for sectoral warning systems, such as for natural hazards, epidemics/biological hazards, and conflicts and review and revision of proposals for

Long Term MHEWS Coordination structures in light of lessons learned during Stage 1. Those revised proposals for long term delivery of MHEWS will be submitted to Decision Makers for agreement at the conclusion of Stage 2 and prior to commencing work on Stage 3.

Expected output:

Technical Working Groups at MS, REC and Continental levels will guide MHEWS, establishment of the AMHEWS Situation Room and creation of Regional Situation Rooms, development of SOPs, protocols for data exchange, and recommendations made for procurement of systems and equipment. The Technical Working Groups shall have considered and analysed suitable long term MHEWS governance arrangements and budgetary arrangements and put forward proposals for consideration of decision makers.

Stage 3 MHEWS Piloting and Delivery (2 years)

Work to pilot and operationalize the MHEWS coordination structures agreed by Decision Makers at the end of Stage 2. This may involve adoption of supporting legal and institutional arrangements as necessary, development of SOPs and Operational Plans and piloting of the Continental warning system, commencing with at least one REC and two MSs with AUC providing coordination. At the conclusion of the MHEWS Programme, progress will be evaluated, and proposals submitted for the agreement of Decision Makers on permanent arrangements for maintenance of MHEWS beyond the initial Development Programme Period.

Expected output:

Piloting and evaluation of the Continental MHEWS regional with overall coordination of AUC and development of proposals for the permanent establishment of a Continental MHEWS, including an ongoing and long-term Programme to upscale the MHEWS.

Business Case for MHEWS Development

MHEWS reduce the costs and losses associated with disaster in addition to reducing human misery. To deliver these benefits all required warning system components must be in place and adequately supported through allocation of required resources (human, financial, equipment, etc.). Current investments into Early Warning Systems are, to a large extent, “disaster-driven.” This means that investments tend to increase significantly if a disaster strikes but are often quickly reduced in the following disaster-free years. Such investment patterns make the continuous operation, maintenance, and development of the Early Warning infrastructure a challenging task and may lead to sub-optimal investment decisions.

Conversely, adequate financing of anticipatory actions to increase resilience delivers a range of benefits that ensure a very positive return on investment, both should a disaster strike and even if it does not. Many of these benefits were captured in a working paper entitled “The ‘triple dividend’ of Early Warning Systems, evidence from Tanzania’s coastal areas” produced by Maria Apergi, Emily Wilkinson and Margherita Calderone, (Maria Apergi, 2020). The wide range of benefits associated with functioning Early Warning Systems must be recognised when considering the business case for MHEWS investments.

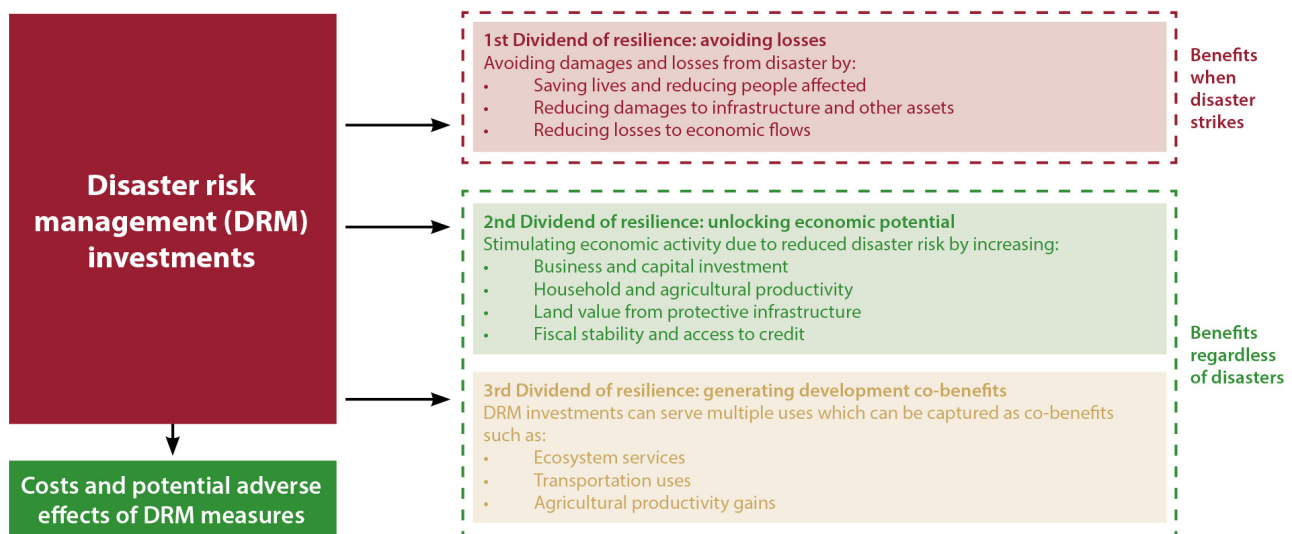


Figure 4 Examples of benefits delivered through investment in resilience (Apergi, Wilkinson & Calderone 2020)

Early Warning systems at Member State, Regional and Continental levels are at different levels of maturity and will have different investment requirements and priorities. This is fully recognised in the MHEWS Framework, and the structures and partnership working arrangements it establishes are designed to support each warning system operator, at each level, to identify the most

cost-effective way of meeting their own needs. This includes opportunities to jointly commission technical studies and maximise use of existing data and information, and access to the advice of technical working groups established at Member State, Regional and Continental level.

Recommendations

The final MHEWS model implemented will be shaped and owned by its users. It is therefore recommended that Continental Departments, Regional Economic Communities, and Member States support the development of the Continental MHEWS and play a full and active role in the 7-year development programme. Although a draft model for permanent operation of a Continental MHEWS is included in the Framework, it is intended only as a starting point for further discussion and development by stakeholders during the 7-year MHEWS programme.

Equally, the Roadmap for delivery of the MHEWS Development Programme with the 22 listed activities, is simply intended as a starting point for development of more detailed project plans at Member State, Regional and Continental levels. It is recommended that stakeholders support the establishment of Early Warning Technical Working Groups to take ownership of this process, and that groups are directed to develop project plans that more accurately reflect their own local and sectoral needs and priorities.

Conclusions

Delivery of the AUC's commitment to operationalise MHEWS by 2030 will be a significant achievement. The scale of the challenge in delivering this ambition should not be underestimated, and it should be considered as a process of continual improvement, rather than a "one off" task. However, with the cooperation and support of multiple partners and stakeholders at Member State, Regional and Continental levels, significant improvements in early warning and early action can be achieved, leading to an increase in lives saved and reduction in disaster damages and losses.

The proposed 7-year MHEWS Development Programme will inevitably require the

commitment of time and resources from multiple partners, many of whom are already struggling to identify resources to address gaps in their own local or sectoral warning systems. However, by adopting the proposals in the MHEWS Framework, including enhanced collaboration across sectors and jurisdictions, improved sharing of data, information, and best practices, and by avoiding duplication of effort, those costs can be minimised, providing a very positive return on investment for all concerned.

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