UNDRR-CIMA Project Phase II

As part of the programme

Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities.

Addis Ababa, 6-8 November 2019

Multi-Countries Workshop on

Improving availability, access and use of disaster risk information for Early Warnings and Actions

Concept Note and Agenda

BACKGROUND

In 2018, as part of the "*Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities*" Programme, UNDRR (formerly UNISDR) and CIMA Research Foundation have developed risk profiles for floods and droughts at national level for sixteen African countries.[1] The Country Risk Profiles provide a comprehensive view of hazard, risk and uncertainties for floods and droughts in a changing climate and socio-economic situation, projected over the next 50 years. The profiles include the estimation, under current and future climate, of the monetary losses for the different sectors identified by the Sendai targets, namely: housing, health and education, agriculture, productive asset, critical infrastructure, housing, services and transports. Risk Profiles combined with data on disaster losses and budget review of DRR investment provide a solid base of risk information for developing actionable strategic plans as DRR strategies, Climate Change Adaptation and development plans towards sustainable societies.

The project has also seen the implementation of national workshops, one week per country, aimed at sharing the methodology, the results and the usability of the generated risk profiles into Disaster Risk Reduction strategies at national level. Together with the risk profiles, workshops have contributed at providing a more

complete picture of the likelihood and impact of floods and droughts, while improving the understanding of risks and the related impact to each critical sector, as well as enhancing internal coordination efforts to prevent, mitigate and respond to such disaster risks and, by promoting the integration of scientific risk information into decision-making processes.

The national workshops have demonstrated the need of a continuous improvement of the risk profiles, to be made possible through the integration of local data and knowledge on hazard and exposure by relevant local institutions and actors. It is expected that the engagement of local institutions and actors will also facilitate and enhance the usability of the risk profiles in decision-making processes, based on the identification of the country's own development priorities. Furthermore, workshops have highlighted the need for a more accurate translation of scientific evidence into improved flood and droughts risk management, towards the substantial reduction of disaster impacts and its consequences on the country's development efforts.

Based on the experience gathered in the previous phase of the programme and the feedbacks received from the partner countries, the Phase II of the project has been structured to enhance the ownership and uptake of the probabilistic risk profiles developed and foster their utilization in different fields of DRR, including for the development of inclusive and actionable strategies for disaster risk reduction, climate change adaptation, sustainable development, the support to the development of impact-based early Warning Systems for weather-driven events and for improved transboundary risk management. As a result, the main objectives of the project is toDevelop a strategic, inclusive and coherent Roadmap to build resilient societies by further improving availability, accessibility and use of risk information at continental, regional, national and local scale involving AUC, the RECs and the countries, as well as key African actors in the field of DRR, such as the Africa Risk Capacity (ARC) and the academic network Periperi U. The Roadmap will focus on impact-based Early Warning Systems, and in this context will enhance capacity for data exchange and coordination among national, regional and continental actors.

Main outcomes include:

1. The development of the roadmap;
2. The establishment, in cooperation with the government of the beneficiary countries and institutions selected for the follow up phase, an open-source web platform to facilitate exchange of data and information to strengthen the national platform for DRR (or other existing national coordination mechanism for DRR stakeholders);
3. The strengthened access to risk information by further engaging national governments and key stakeholders in the revision and update of national risk profiles;
4. The built capacity of the technical experts to integrate local knowledge and experience in the risk profiles, to enhance national ownership and ensure their continued update beyond the closing of the programme;
5. The training about the use of the improved risk profiles for the development of impact-based early Warning Systems; and for the transboundary risk management.

More detailed description of UNDRR-CIMA Project Phase II is attached in Annex 1.

Road Map for improving availability, access and use of disaster risk information for Early Warnings and Actions

As part of Activity 2 of the UNDRR-CIMA Phase II project, a specific action is dedicated to the development of a Road Map for improving availability, access and use of disaster risk information for building resilient societies, with a special focus on impact-based Early Warning Systems and transboundary risk management. The Roadmap aims at **improving availability, accessibility and use of risk information at continental, regional, national and local scale** involving AUC, the RECs and the countries, as well as key African actors in the field of DRR. The Roadmap focus on impact-based Early Warning Systems, and in this context aims at enhancing the capacity for data exchange and coordination among national, regional and continental actors.

The Road Map contains a baseline analysis on the status of Early Warning system and use of disaster risk Information in the target countries as well as at continental and regional level. The baselines analysis highlights strengths and challenges in the four components of Early Warning Systems: Risk Knowledge, Monitoring and Forecasting, Communication and Dissemination, Preparedness and Response Capacities. Furthermore, the road map builds on the results of a pilot demonstration on the use of the open source platform MyDewetra for exchanging data and information among different national stakeholders regional and continental institutions. The pilot demonstration based on MyDewetra Platform is described in Annex 1; the platform will integrate data from the probabilistic risk profiles, from national disaster loss databases (including DesInventar), from the Global Programme for Climate Services, publicly available risk data and information from relevant stakeholders at the national, regional and continental level.

Workshop Overall Purpose and Objectives

The overarching purpose of the three-day workshop is to increase knowledge and awareness of stakeholders on how improved availability, accessibility and use of risk information can effectively advance Early Warning Systems and transboundary risk management at National, Regional and Continental level. The workshop will be instrumental for improving the ownership and engagement of national, regional and Continental institutions for the development of the Road Map and its future implementation-

The workshop has the specific objectives to:
- Consolidate the knowledge of on the core components of Early Warning Systems - Risk Knowledge, Monitoring and Forecasting, Communication and Dissemination, Preparedness and Response Capacity- and the need of multi-actors' coordination.
- Review the draft baselines analysis on status of EWS in target Countries, continental and regional level, RECs and AUC; Revise *Road Map for improving availability, access and use of disaster risk information for building resilient societies*; propose key practical actions for future improvement of the EWS at National as well as at Regional and Continental level

- Practicing with the use of MyDewetra platform as a concrete open source technology for improving exchange information for EWS and transboundary risk management (focus on floods and droughts). Identify the main opportunities and challenging in the operations of the platform.

Participants Selection

The participants of this Workshop will include approximately 30 participants from Disaster Risk Management authorities, Meteorological and Hydrological experts and line-ministries of the target Countries, RECs and AUC as well as international partners.

Five participants per Countries will be invited, 3 for each RECs (IGAD and SADC) and 4 from AUC or related agencies. Countries, RECs and AUC will appoint 1 High Level participant for each organization to attend the closing sessions of half day on 8 November. The other participants will be at technical level (4 for each target Country, 2 from RECs and 2 from AUC). DRR Focal points will be asked to identify candidates for the Workshops based on a combination of the following general criteria:

- Subject matter knowledge in an area relevant to Early Warning System
- Appropriate experience (5 years +) in the professional sector or related sectors.
- Linkages roles within the institutions represented.
- Strong participation of women due to their key role in delivering DRR solutions and initiatives.
- Mixed Representation from Age/Experience/Gender etc.
- Fluency in English.

Profile for Technical Participants

- from Target Countries (Angola, Ethiopia, Tanzania, Zambia)
  1. DRR focal point
  2. Meteorological expert form Meteorological Service; the expert should have experiences in using tools for weather and climate monitoring and forecast and in deep knowledge of the status of the country
  3. Hydrologists expert form Hydrological Service the expert should have experiences in using tools for hydrological monitoring and forecasts and in deep knowledge of the status of the country.
  4. Early Warning System expert from National Disaster Authorities, preferably the expert should be member of Crisis Centre/situation room (if exist) or involved in disaster risk information management before, during and after emergency.
- From IGAD/IPCAC and AUC
  1. Meteorological or hydrological expert with experience in using tools for monitoring and forecast and in deep knowledge of the status of the Region or at Continental Level
  2. Early Warning System expert, member of Crisis Centre/situation room (if exist) or involved in disaster risk information management before, during and after emergency.

Representative from other Member States or RECs (i.e. ECCAS Climate Centre) might be invited

Agenda

6-7-8 November 2019

Time	Technical Session Day 1 – 6 November
8.30	Participants registration
9.00-10.30	**Welcome and Introduction** 1. Welcome **UNDRR, CIMA, AUC (official opening)** 2. Participants introduction 3. Workshop objectives and Overview of Draft Baseline Analysis, Pilot Web-Platform for data-sharing and Road Map (CIMA)
10.30-11.00	Coffee break
11.00-12.30	From Early Warning to Early Actions: an introduction
12.30-13.30	Lunch
14.00-15.30	Status of EWS in target Countries and from continental to Local Level: Situation analysis; Review and Consolidation of country specific situational analysis
15.30-16.00	Coffee break
16.30-17.30	Pilot Demonstration: the web- platform MyDewetra Session 1: Exploring geospatial data

Time	Technical Sessions Day 2 – 7 November
08:30 - 9:00	Morning Review: a first int on the Road Map
9.00-10.30	Pilot Demonstration: the web- platform MyDewetra for impact based- forecast Session 2: Case Study
10.30-11.00	Coffee break
11.00-12.30	Pilot Demonstration: the web- platform MyDewetra for impact based- forecast
12.30-14.00	Lunch
14.00-15.30	Pilot Demonstration: the web- platform MyDewetra for impact scenario Session 3: Table top Exercise Simulation exercise
15.30-16.00	Coffee Break
15.30-17.00	Roadmap for Improving availability, access and use of disaster risk information for Early Warnings and Actions Break Down session and group work
	Social Dinner

Time	Closing Session Day 3 – 8 November
8.30	Participants registration

9.00-10.30	**Welcome and Introduction**
	    1. Welcome **UNDRR EU Delegation, CIMA, AUC**
	    2. Status of development of Risk Profiles
	    3. Output of the workshop, summary of Baseline Analysis and RoadMap, Pilot Web-Platform for data-sharing and Road Map (CIMA)

10.30-11.00	**Coffee break and Group Photo**
11.00-12.30	**Panel Discussions, output of breakdown session of day 2 on Roadmap for Improving availability, access and use of disaster risk information for Early Warnings and Actions**
12.30-13.30	Lunch
13.30 -15:00	**Operationalization of Early Warning System** **Panel : AUC, IGAD/ICPAC, SADC (t.b.c), ACMAD, Angola, Ethiopia, Tanzania, Zambia, EU Member State (Italy)**
15:00 -16:00	**Official closure**

Annex 1: UNDRR-CIMA Project - Phase II

The main activities of the project are:

ACTIVITY 1: Integration of local data and knowledge to improve probabilistic risk profiles for floods and droughts and to mainstream them in national development policies across sectors.

Activity 1 will focus on the availability and the quality of disaster risk information through the consolidation of the results of the risk profiles in selected countries - Angola, Tanzania and Zambia. The integration of local data and knowledge, in close partnership with local institutions already identified and engaged during the workshops implemented in phase I is an essential step of the process. Engagement of national governments and key stakeholders in the revision of national risk profiles will improve the accuracy of risk profiles and accelerate its mainstreaming in national development policies and strategies.

- Output 1: Improved country-level probabilistic risk profiles.

  The risk profiling workshops conducted in 2018 highlighted the need to consolidate and tailor the country-level probabilistic risk profiles. Additional data suitable for the improvement and for demand-based fine-tuning of the risk profiles will be identified in 2019 to enhance the probabilistic risk profiles in collaboration with national stakeholders. Country risk profiles will be updated based on the identified complementary datasets. New risk metrics will be discussed with national stakeholders for case-specific needs related to national DRR strategies, to the UNDAF and to other priority policies.

- Output 2: Guidelines on the use of the probabilistic risk profiles in decision-making policies for DRR, CCA and Sustainable Development

  Mainstreaming disaster risk information in national development policies has a great potential to reduce the impact of disasters by promoting a risk-informed approach. For this reason, recognizing the importance of mainstreaming and integrating disaster risk information within and across all sectors of development is an essential step to achieve risk informed, resilient, inclusive and sustainable societies. The Guidelines are indented to be a tool to foster the use of the probabilistic risk profiles for improving disaster risk management.

ACTIVITY 2: Road Map for improving availability, access and use of disaster risk information for building resilient societies

Activity 2 will focus on improving the availability, accessibility and use of risk information at the continental, regional, national and local levels by developing a Roadmap orientated at addressing issues identified during a participatory Gap Analysis process. A multi-stakeholder approach that will involve the AUC, the RECs and the countries will be applied. Focus will be put on Early Warning Systems at the continental, regional and national level.

- Output 3: Situation Analysis and Roadmap

  An initial review of the use of disaster risk information across the entire disaster risk management cycle will be undertaken for each country by CIMA Research Foundation.

Particular focus will be paid to preparedness and impact-based Early Warning. The review will concentrate both on the availability of tools and data to support prevention and preparedness, on the legal and institutional setup and the associated SOPs. The Road Map will cover the local, national, regional and continental scale. Tools will be assessed as scientific and technical means to support DRR and CP systems in effectively cooperating with citizens.

- Output 4: Pilot demonstration

  A web-based open-source platform will be proposed in support of the aforementioned Roadmap for the collection and analysis of disaster risk related data and for the redistribution of information relevant for prevention and preparedness (including EWS). The platform will serve to aggregate, define and test the institutional setup proposed in the Roadmap and draft SOPs defined by the countries, RECs and AUC. The platform will integrate data from the probabilistic risk profiles, from national disaster loss databases (including DesInventar) as well as from the Global Programme for Climate Services, publicly available risk data and information from relevant stakeholders at the national, regional and continental level.

Besides the outputs listed above, UNDRR-CIMA project phase II envisages the organization of training sessions and capacity building events.
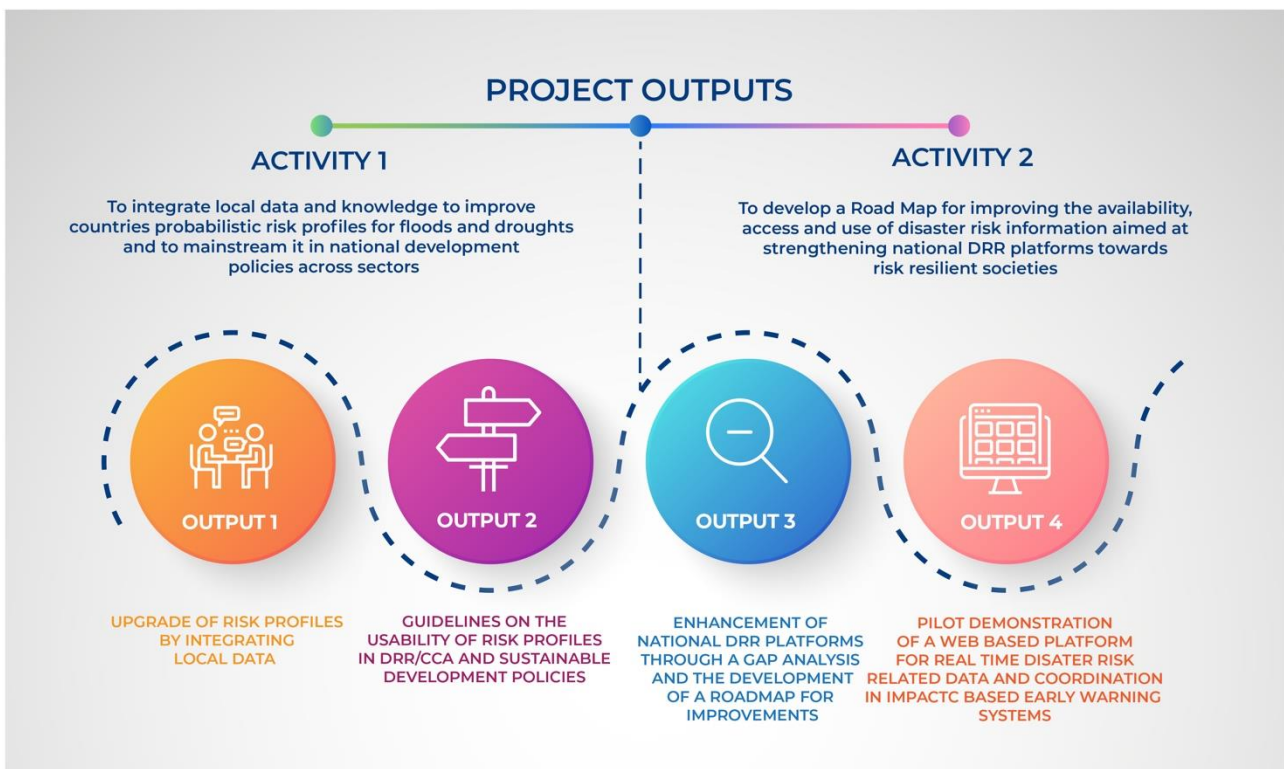
Annex 2: Pilot demonstration based on MyDewetra platform

Preparedness is an essential phase of the disaster risk management cycle. Effective preparedness requires multiple measures from the access to risk information, data, forecast tools to adequate institutional and legislative framework, trained forecasters and experienced practitioners.

Rapid access to reliable real-time information is fundamental for the decision-making process before and during an emergency. This should be combined with a proper communication strategy and a well-prepared civil protection system. Citizens must be aware of the risk they face and ready to early act to alert, i.e. adopt self-protection measures.

The connection between forecasts and preventing actions, eventually included into an emergency plan, is essential; forecasts need to provide the information necessary for building the risk scenarios, or, in other words, the description of the potential evolution of the impacts of the disastrous event. This link between forecasts and actions passes through the possibility of prefiguring risk scenarios and the ability of quantitatively analysing them so to determine proper triggers for actions in the field.

The Dewetra platform is a fully operational platform used by the Italian Civil Protection Department and designed by CIMA Research Foundation to support operational activities at national or international scale. The system is a web-GIS platform aimed to multi-risk mapping, forecasting and monitoring. Using the tools of the platform it is possible to access and display data on exposure, vulnerability and hazard both in a temporal or spatial way and to build real-time scenarios of risk and damage[2]. DEWETRA is used in several countries. Some of them adopted Dewetra as the official platform for their risk information sharing during events such as Lebanon, Paraguay, Bolivia, Albania, Serbia and the Caribbean through CIMH[3]. Other exploratory installations were set up in Ecuador, China, the Philippines among others.

The Dewetra platform has been used for a pilot demonstration in the selected countries involved in the project: Angola, Tanzania, Zambia. The ultimate goal of the pilot is to demonstrate the added value of the platform in making available the most relevant and updated data and information for building real-time risk scenario.

Although the platform can serve multiple users from different sectors, the workshop will demonstrate the usefulness for the two main end-users:

1. Forecasters from hydrometeorological services and water management institutions. Usually, forecasters for hydro-met services have solid background in meteorology and hydrology and use the platform to predict the possible conditions of the weather and their impact on the ground. Forecasters make use of highly technical layers most probable hazard scenario before the emergency and its evolution during the emergency.
2. Disaster managers. Disaster managers have solid background in situation analysis, emergency management, response and early action. The information that they require must be easily accessible, interpretable and actionable linked to immediate action on the field.

Practical study cases will demonstrate the use of the platform as a linkage between the two types of end-

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[2] Italian Civil Protection Department, CIMA Research Foundation (2014) The Dewetra Platform: A Multi-perspective Architecture for Risk Management during Emergencies. Springer, DOI: https://doi.org/10.1007/978-3-319-11818-5_15

[3] Caribbean Institute for Meteorology and Hydrology (CIMH)

users.

The platform prototype, installed on the cloud, is accessible in the Internet through a common web browser. The platform contains risk data and information at different scales: regional, national and provincial level. The data will be provided by the countries and the RECs.

Each institution at regional, national or provincial level will have access to the platform on the base on their role and responsibility within the institutional framework. At the same time each institution has the possibility to share the most updated information on hazard, exposure, vulnerability and cooping capacity. Most of the local data and information used in the risk profile (such as exposure, vulnerability, hazard maps, etc.), may also be used in real-time to assess the impact of imminent event. Regional climate centers within the REC can also share relevant data about monitoring and outlook through this channel.
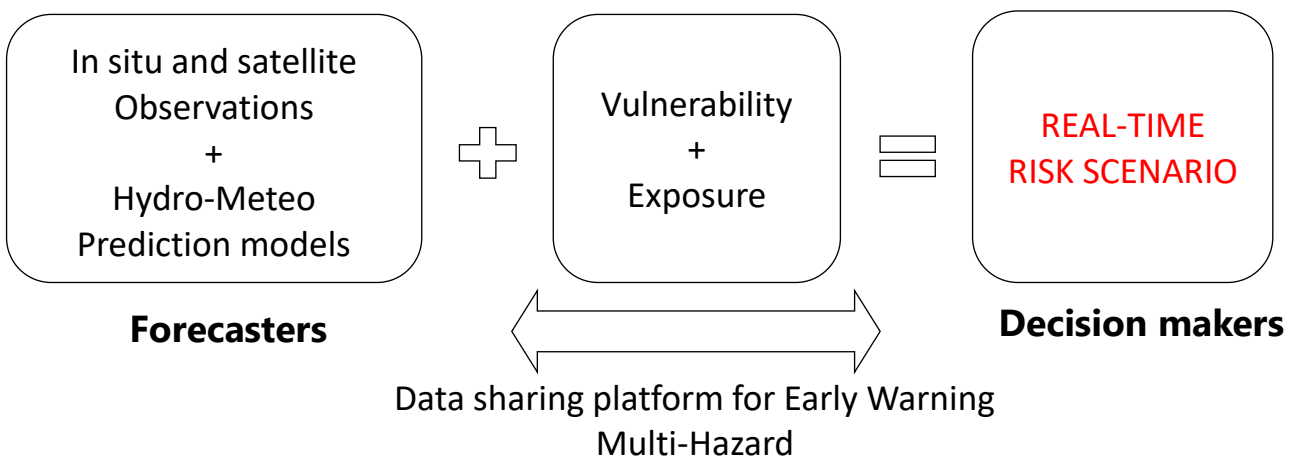
 Benefits from an improved data and information sharing across institutions will be assessed during the workshop. The institutional set-up for national early warning will be also analysed, in order to highlight strengths, limitations and challenges for operational data sharing. As results the countries and RECs will indicate the best way forward for future implementation and management of the platform. The results will update the Road Map for improving availability, access and use of disaster risk information for building resilient societies – with a focus on Early Warning System.