

# WATER AT THE HEART OF CLIMATE ACTION

Accelerating and scaling up water action to reduce risks and increase climate resilience

9 June 2023



# Abbreviations

AA	Anticipatory Action
AU	African Union
CSO	Civil Society Organization
DRR	Disaster Risk Reduction
EW	Early Warning
EWS	Early Warning Systems
EW4A	Early Warning for All
GBON	Global Basic Observing Network
Hydro-Met	Hydrometeorological
IFRC	International Federation of Red Cross
ICPAC	IGAD Climate Prediction & Applications Centre
IGAD	The Intergovernmental Authority on Development
IO	International Organization
IPCC	Intergovernmental Panel on Climate Change
JMP	Joint Monitoring Programme
LDC	Least Developed Countries
NGO	Non-Governmental Organizations
NLRC	Netherlands Red Cross
NMHS	National Meteorological and Hydrological Services
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OHCHR	Office of the United Nations High Commissioner for Human Rights
PGI	Protection Gender and Inclusion
PMU	Programme Management Unit
PWG	Programme Working Group
RACI	Responsibility, Accountability, Consultation and Information
RCCC	Red Cross and Red Crescent Climate Centre
RiX	Risk Information Exchange
SDG	Sustainable Development Goals
SLT	Senior Leadership Team
SOFF	Systematic Observations Financing Facility
UN	United Nations
UNDRR	United Nation Office for Disaster Risk Reduction
UNMPTF	United Nations Multi-Partner Trust Fund
WASH	Water, Sanitation, and Hygiene
WMO	World Meteorological Organization

Cover photo: Olav A. Saltbones/Norwegian Red Cross/2022/

Animal herder in Somalia affected by drought and famine.



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Rita Nyaga/IFRC/2021/Sandbags placed to contain the heavy rains in Khartoum city (Sudan).

200 families were affected by floods in Karray locality in Khartoum State (Sudan) in September 2020. Families were warned about the floods in advance and evacuated to higher ground before the water flashed through their community. This action saved lives. Sandbags were used to protect houses and belongings, but the scale of destruction and loss was very high as the houses were situated beside the riverbank.



# 1. INTRODUCTION

The current climate crisis has led to a dramatic exacerbation of the water crisis and an increase in weather and water-related risks. Almost three quarters of all recent humanitarian disasters were water related, causing economic damage of almost US\$700 billion in the past 20 years.<sup>1</sup> Climate and water-related risks<sup>2</sup> are exacerbated by climate change, which is increasing existing stresses on water resources, disrupting the hydrological cycle, changing precipitation patterns, and affecting groundwater availability and water quality. Global projections indicate that the demand for freshwater will increase significantly over the next decades as a result of population growth and mobility, economic development and urbanization.

For instance, total global water withdrawals for irrigation are projected to increase in order to respond to the increasing population. This endangers the health of communities by putting pressure on drinking water sources, and disrupting agricultural production, food security, and livelihoods.<sup>3 4</sup> Among communities affected, some groups are more vulnerable than others. The susceptibility to harm and exposure of some groups to weather and water-related risks shape their level of vulnerability to the hazard. Every context is different and pre-existing factors such as gender-specific vulnerabilities, coupled with ongoing changes, including rapid urbanization, environmental degradation, market conditions, level of security and demographic changes, are some of the key drivers of vulnerability to water related hazards.

The Intergovernmental Panel on Climate Change (IPCC) identifies water action as one of the most effective measures to reduce climate vulnerability:

*“Water-related risks are projected to increase with every degree of global warming (high confidence), and more vulnerable and exposed regions and peoples are projected to face greater risks (medium confidence). [...] There is increasing evidence of observed changes in the hydrological cycle on people and ecosystems. A significant share of those impacts are negative and felt disproportionately by already vulnerable communities (high confidence). [...] Observed water adaptation responses have multiple benefits (high confidence).”<sup>5</sup>*

We urgently need to accelerate and scale up water action to mitigate the impacts of water related risks and increase the climate resilience of affected communities. Without urgent, coordinated and large-scale action to tackle water-related risks, we will fail to protect those most in need and deliver the commitments taken under the Sustainable Development Goals (SDGs)<sup>6</sup>, the Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015–2030.<sup>7</sup>

Most country-level water sanitation and hygiene (WASH) policies do not address climate-related risks to WASH services, technologies, and management systems. Global and national policies on climate, disaster risk reduction (DRR) and water are often siloed and disconnected from and not informed by actors at the local level. Meaningful participation in decision-making of local actors, communities and especially marginalized, and often, more vulnerable groups is weak or not existing and their voices do not reach global policies and platforms for structural changes. This creates missed opportunities for acceleration and scale up of community-based adaptation measures that benefit WASH and integrated water management systems. To adapt to our changing climate, a combination of early warning and early action measures that support integrated water management is necessary to protect the lives and livelihoods of the communities at-risk and to comprehensively address water-related disasters.

Five main technical focus areas have been identified to address the challenges noted above:

1. Water-related risk knowledge and governance
2. Observations, monitoring and forecasting of weather and water-related hazards
3. Water specific early warning systems dissemination and communication

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<sup>1</sup> <https://www.theguardian.com/environment/2021/jun/17/the-next-pandemic-drought-is-a-hidden-global-crisis-un-says>

<sup>2</sup> Note that we use this term throughout this initiative to refer to humanitarian disasters in part driven by water-related extreme weather events. These are driven by various types of climate variability and change.

<sup>3</sup> <https://www.worldwaterweek.org/news/food-and-water-security-reflections-from-world-water-week-2022>

<sup>4</sup> [World Disasters Report 2020, IFRC](#)

<sup>5</sup> IPCC AR6 Chapter 4 [https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC\\_AR6\\_WGII\\_Chapter04.pdf](https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter04.pdf)

<sup>6</sup> In particular SDG 6 - universal access to water, sanitation, and hygiene. Water and sanitation are cross-cutting and an enabler to many SDGs (including 6.5, 6.6, 3, 7, 11.5, 13, 14 and 15) through close linkages with the environment, energy, food security, poverty, health and resilience to human induced and natural disasters.

<sup>7</sup> [World Disasters Report 2020, IFRC](#)



4. Anticipatory Action and Locally Led Adaptation and
5. Crosscutting activities

The solutions cannot be found if agencies work in isolation. Urgent and efficient action needs policy, climate and hydrological products and services, national and local disaster management actors to collaborate, with strong coordination between local communities and authorities, national and global actors. Unique challenges call for unique partnerships. This initiative brings together three international organizations with a global mandate on the technical areas:

- International Federation of Red Cross and Red Crescent Societies (IFRC)<sup>8</sup>
- United Nations Office for Disaster Risk Reduction (UNDRR)<sup>9</sup>
- World Meteorological Organization (WMO)<sup>10</sup>

These organizations are already working together under the umbrella of the Centre of Excellence for Climate and Disaster Resilience.<sup>11</sup> They will be further strengthened by a dedicated UN multi-partner financing mechanism to fund weather and climate surface-based observations: the Systematic Observations Financing Facility (SOFF).<sup>12</sup> These partners are uniquely positioned to deliver targeted results in local-level policy and products. They will deliver climate and hydrological products and services to support national and local disaster management actors. They share a common goal to ultimately reduce water risk and increase resilience in the most vulnerable communities. By unlocking barriers across the whole hydro-meteorological (Hydro-Met) value chain (referred to as “*from satellites to sandbags*”), this partnership will model a way of working that can ideally be scaled and replicated. The approach puts country teams in the lead and will be piloted in four countries around the Nile River Basin (Ethiopia, Sudan, South Sudan, Uganda).

This initiative contributes to the “Early Warnings for All Initiative” (EW4All) based on the UN Secretary General’s challenge to provide early warnings for all by the end of 2027 and will be part of the commitments of the Netherlands Government for the Global Water Action Agenda presented the UN 2023 Water Conference. This initiative also contributes to the targets and work of the IFRC Global Climate Resilience Platform and the Risk-informed Early Action Partnership (REAP).

IFRC and RCRC NSs in IGAD Region contributed to the drafting of the IGAD Regional Roadmap for Forecast based Anticipatory Action in 2021-22. IFRC is currently supporting the validation and endorsement of the Roadmap by Member States. The main aim of engagement as IFRC is to support the scale up of Anticipatory Action in the Region including the mainstreaming of the same in key Disaster Risk Reduction policies and strategies. Building on the efforts by the Red Cross in bringing IGAD and the African Union together on the Anticipatory Actions thematic, and UNDRR contribution on the establishment and operationalization of the situation rooms at IGAD Climate Prediction & Applications Centre (ICPAC) and Africa Union Commission (AUC), this initiative will support the strengthening of EWS within the four countries of the IGAD region and the operationalization of the IGAD Regional Road Map on Forecast-based Financing and Anticipator Actions. Furthermore, the initiative will support the implementation of the “African Union Climate Change and Resilient Development Strategy and Action Plan 2022-2032”<sup>13</sup> developed in collaboration with some of the partners of the proposed alliance It will also contribute to the Africa Road Map, the Africa Multi-Hazard Early Warning System for Early Action, and the Africa Plan of Action for the implementation of the Sendai Framework. For more details on all strategic initiatives, we will link with—see [Annex 1](#).

This initiative is not a ‘program’, but rather, is a platform for systemic change that can draw in further investments as it matures and be scaled to more contexts, partners and countries.

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<sup>8</sup> The [International Federation of Red Cross and Red Crescent Societies](#) is made up of 192 Red Cross and Red Crescent Societies, often referred to as National Societies. These include the Ethiopia Red Cross Society, the Netherlands Red Cross, South-Sudan Red Cross Red Crescent, Sudan Red Cross Red Crescent and Uganda Red Cross Society. The Red Cross Red Crescent Climate Centre is a Reference Centre that provides guidance and tools to National Societies on reducing the impacts of climate change and extreme-weather events on vulnerable people.

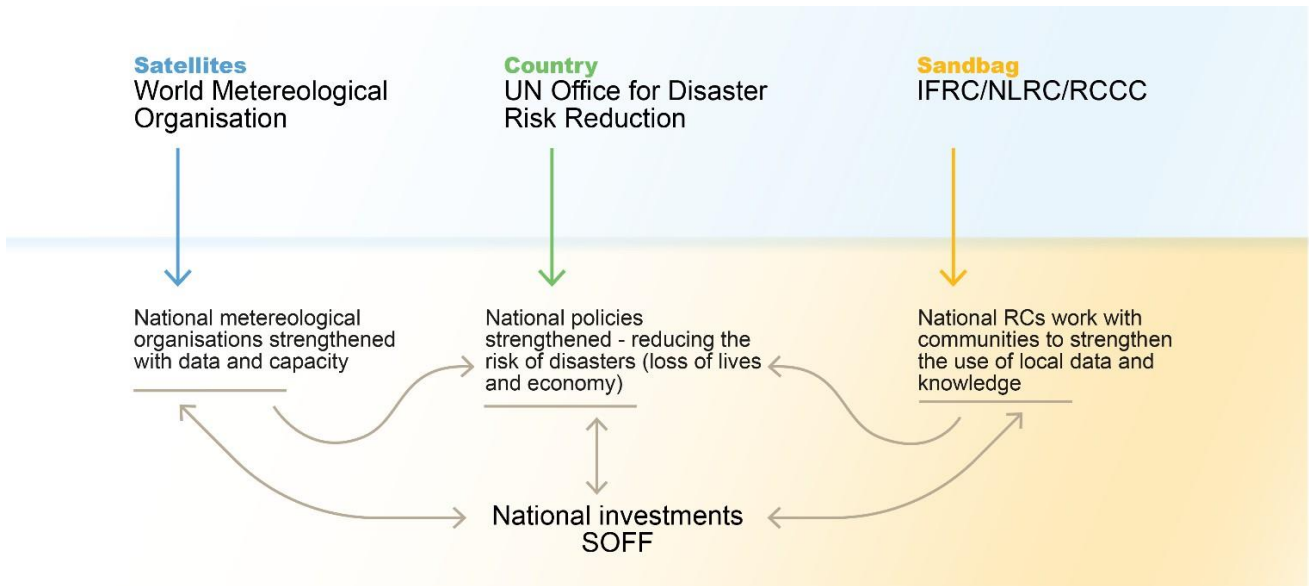
<sup>9</sup> [United Nations Office for Disaster Risk Reduction \(UNDRR\)](#)

<sup>10</sup> [World Meteorological Organization | \(wmo.int\)](#)

<sup>11</sup> A joint [initiative](#) of the World Meteorological Organization and the UN Office for Disaster Risk Reduction.

<sup>12</sup> [Systemic Observations Financing Facility \(SOFF\)](#)

<sup>13</sup> <https://au.int/en/documents/20220628/african-union-climate-change-and-resilient-development-strategy-and-action-plan>



**Figure 1.** From Satellites to Sandbags, this action shows a unique partnership from global actors (above) to national counterparts (below).





Amanuel Sileshi/IFRC/2022/Ethiopia/Displaced woman in Somali region (Ethiopia) affected by drought.

Ardu is sitting outside her makeshift home, south of Babile, Somali region (Ethiopia). Ardu, a mother, is a displaced person who had to abandon her home due to prolonged drought, the worst registered in recent history. Many pastoralist families have lost all of their livestock. They have had to move locations in search of clean water and access to markets. 2023 may bring more of the same, as the March-May 2023 rains are also forecast to be below-average.

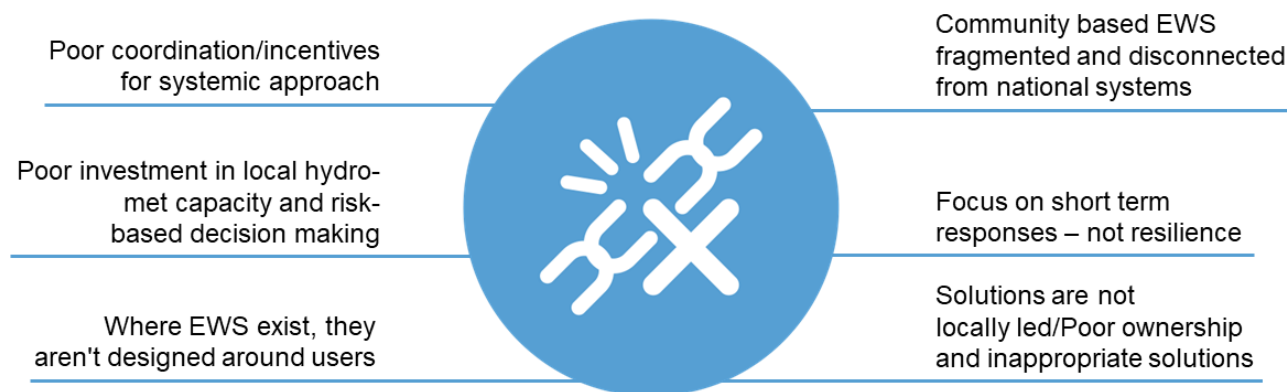




## 2. PROBLEM STATEMENT

Climate, weather and water-related risks are intertwined. The global water crisis disproportionately affects marginalized groups and limited strategies to cope with the impact of the hazards. Women, Indigenous peoples, minority groups, refugees and internal displaced population, urban dwellers living in informal settlements, persons with disabilities, older persons, and people living in poverty are the most exposed and susceptible according to different studies. Intersectional factors such as age, gender identity, poverty, disabilities contribute to shape further the vulnerability level and the exposure to the risks.<sup>14</sup> While viewed as vulnerable, these groups are often not involved in decision-making process related to response or preparedness, nor their views, opinions and agencies are captured in key policy and strategic documents, programs and plans. Inequitable access to clean water and adequate sanitation<sup>15</sup> is genderized and contributes to keep people marginal. During disaster people with already inequitable access to clean water are often the ones facing more risk of suffering greater impact and during response they also often overlooked by aid responders. At the time of recovery, they can face active discrimination from those planning and governing water and sanitation improvements and services, and other service users.

There is a clear urgency to accelerate and scale up water action to reduce the impacts of water-related risks exacerbated by climate change by reducing vulnerability and increasing resilience of the community at-risk to extreme weather events. Many initiatives are working on disaster risk reduction and management, climate and hydrometeorological data and forecasting, and climate policy, but communities – and especially marginalized groups - are rarely placed at the center of the design process, and investment in local adaptation. CSOs and local actors face a number of obstacles that hamper full and effective participation and access to the decision-making process. By encouraging participation of local actors, this action facilitates fair, equitable, and sustainable outcomes. Coordination across sectors, low levels of local investment and disproportionate attention on short-term responses have contributed to the problems around managing water-related risks. In response, this initiative calls for long-term resilience strengthening measures. The initiative will increase targeted action to improve the forecasting and early warning system capacity of regional and national actors, which are hindered by a lack of user-centered approaches. These systems also suffer from a disconnect between national and local early warning systems, fragmentation and lack of ownership by the local communities. The following section will take a closer look at each of these challenges.



**Figure 2.** Key challenges preventing water action for climate resilience.

### **Lack of coordinated planning and delivery around water and disaster-related risk:**

- Lack of coordination and coherence between climate, DRR, and water sectors at national and local levels limits the potential collective impact of these efforts. This lack of coherence is reinforced by uneven and fragmented data (particularly on loss and damage data) that makes it hard to connect global science with national and local know-how.

<sup>14</sup> [OHCHR | OHCHR Report 2021](#)

<sup>15</sup> <https://www.wateraid.org/uk/the-crisis/tackling-inequality>



- The IPCC identifies WASH provision as one of the most effective measures to reduce climate vulnerability in the near term, in particular noting it as a 'low regrets' adaptation measure.<sup>16</sup> Despite this, the WASH sector is rarely reflected in national climate commitments and policies,<sup>17</sup> and decision-makers and practitioners do not recognize climate change adaptation as part of their primary mandate.
- Most country-level WASH policies and plans do not address climate-related risks to WASH services, technologies, and management systems.
- Global and national policies on climate, DRR and water are often siloed and disconnected from and not informed by the actors at the local level. This creates missed opportunities for acceleration and scale up of community-based actions.
- Community early warning systems (EWS) are fragmented, not inclusive of local actors, and not linked to national systems.

### **Poor investment in international, national and local Hydro-Met capacity and data-informed decision-making:**

- Often decision-makers and practitioners in the water sector lack access to quality, relevant water risk analysis and data that is tailored to their work. In addition, they often have poor access to actionable explanations of weather and climate information that enables risk-informed decisions.
- The volume and reach of observation and forecasting systems are not tailored or fit for purpose, as Hydro-Met forecasts and EWS have not traditionally taken a user-centered approach.
- Downstream adaptation and climate change resilient development projects as well as EWS often rely heavily on the use of global modelling data rather than local observations. This is often due to the lack of necessary infrastructure to collect and analyze local data.
- The lack of local Hydro-Met observations and climate data severely limits the ability of countries and their development partners to effectively plan and adapt to climate change, and to design and implement meaningful and effective adaptation projects.
- National Hydro-Met agencies in developing countries are sometimes missing connections to regional and global meteorological, climatological and hydrological services.
- National Hydro-Met agencies' capabilities on observation, modeling and forecasting products and service provision would benefit from capacity building in terms of state-of-the-art tools, human resources and IT infrastructure.
- National Hydro-Met services often use regional seasonal weather forecasts, which in terms of spatial and temporal scale meet needs of national agencies, but do not meet needs to be used at the local level.<sup>18</sup> Even where national data exists, it fails to reach vulnerable communities.
- The atmosphere has no horizontal boundaries, and only in its entirety can it be simulated mathematically. Even though all weather prediction starts with global models, the information needed for weather and climate services is often highly local but rarely reaches this level.
- Lack of an appropriate financing model has limited meteorological and hydrological observations.
- International exchange of observation data is critical in improving global and regional forecasts, which are the basis for all weather forecasts—in order to enable informed decision-making.
- National agencies' capabilities on generating and internationally exchanging basic observations is low. Using and tailoring global and regional modeling and forecasting products need substantial improvement. Observation infrastructure, use of state-of-the-art tools, institutional and human capacity resources and IT infrastructures can all be improved.
- Global climate projections and weather forecasts can be difficult to use on a national scale as they lack granularity.

### **Where Early Warning Systems exist, they are not designed around users**

- Increased water-related risks exacerbated by climate variability and change call for better systems to anticipate, cope and recover from water-related hazards. In Africa, data provided by UNDRR shows that only 38% of WMO members have multi-hazard EWS and even fewer have regulatory frameworks to link early warnings to emergency response plans.

<sup>16</sup> <https://washmatters.wateraid.org/publications/water-sanitation-hygiene-foundation-building-resilience-climate-vulnerable-communities>

<sup>17</sup> <https://washmatters.wateraid.org/publications/no-climate-resilience-without-wash-a-call-to-action>

<sup>18</sup> Early Warnings for All, World Meteorological Organization (wmo.int)



- Lessons learned over a decade of delivery of EWS tell us that warning messages are often not timely, actionable or understood by local actors, and they are not sufficiently adapted to different needs or impairments and inclusive. Gender, age and ability consideration in the whole EWS process is rarely applied and very often it does not reach the most marginalized groups.
- Warning messages alone are not sufficient. They need to be followed by local action and a coordinated inter-agency response. Local institutions often lack the resources to lead effective responses, and there are significant under investments in taking action to build resilience ahead of disasters.

**Focus on short term responses alone instead of offering responses *and* building longer-term resilience:**

- Even when EWS are in place, the occurrence of multiple repeated crises erodes the coping capacity of the communities. To be effective and sustainable, EWS must connect to longer-term adaptation strategies that build resilience to climate change.
- Affected communities are living with a myriad of water related challenges - too little water, too much water and/or poor-quality water. Under-investment in resilience building at the community level means that people recovering from climate shocks are often made more vulnerable as water supplies are fragile. There is a need to build resilience to water-related risks in two timeframes—*before* hazards strike so people can anticipate and take early action, and *after*, so people can return safely and rapidly after disasters happen. Specific actions to reduce vulnerability of at-risk groups—both before and after hazards - are needed and gender, age and disability as well as other socio-cultural background analysis need to be integrated in the long-term response.
- Investments in climate-resilient water services are not always effective and sustainable and often not targeted to marginalized groups facing the worst exposure to this increasing risk. Access to water remains a widespread development issue across the African continent. Africa includes geographical areas with extremely low access to water due to lack of planning and investment in water infrastructure that can resist water-related shocks.
- It is critical to improve understanding on how exposure to climate risks and underlying vulnerabilities determines who has safe water access today and in the future. Without this, we will continue to see investments in water systems that do not consider local conditions, do not respond to the needs of those most vulnerable, increase inequalities and are not resilient to a more volatile and intense climate in the future.

**Solutions are not locally led:**

- Under-served communities often are not at the center of all development agendas, decision-making, processes, and actions, especially women, children, refugees, elderly, disable and other marginalized groups. These often-neglected groups are not involved in identifying problems and challenges, defining solutions, and are not involved in feedback mechanisms to gather evidence of what has worked and how to do better. Moreover, many CSOs or local NGOs representing most at risk or marginalized groups (women groups, people with disabilities or older people groups) are often not involved or consulted in EWS or other response preparedness action.
- Local actors and communities are often imposed “best practice” solutions from elsewhere—determined by outsiders, instead of having opportunities to identify and prioritize problems as the basis for crafting “best fit” local solutions.
- If solutions are not locally led, the ownership and accountability for the solutions is not built, and vulnerable groups are forgotten and disproportionately affected.





Denis Onyodi/IFRC/2021/Western Uganda was hit by a wave of flash floods after days of heavy rain.

Western Uganda was hit by a wave of flash floods after days of heavy rain in 2021. Rwangara village in Ntoroko District in Uganda flooded after Lake Albert has burst its banks and inundated almost the entire fishing village. The Climate Prediction Center's Africa Hazards Outlook For USAID/FEWS-NET points at the high risk of flooding in South Sudan for 2023. Future disasters affecting the target areas in this initiative will increase the pressure to invest funding in response. This partnership plans to reduce this risk through a set of mitigation measures included in the risk analysis.



### 3. FOCUS COUNTRIES

Finding integrated solutions for these challenges requires targeted action. The partners agreed to focus efforts on Africa, and, where possible, to select countries within the same river basin, as integrated water management and early warning early action approaches do not always follow political boundaries. Africa's population continues to grow. Conflict, climate change and related disasters continue to disrupt water systems across the continent. It is predicted that by 2025, close to 230 million Africans will face water scarcity, and up to 460 million will be living in water-stressed areas.<sup>19</sup> Water scarcity is increasingly a by-product of climate change, coupled with higher intensity and frequency of water-related hazards as a result of changes in weather patterns and hydrological stressors. Through various research studies, climate projections foresee a mean annual reduction of precipitation and an increase of temperature for various parts of East Africa. Dry seasons in the region are generally expected to be longer and drier, while rainy seasons will be shorter but characterized by more intense precipitation events.<sup>20</sup> This will modify the current distribution of water resources over the different climatic zones, likely making sustainable water resource management and disaster risk reduction increasingly challenging.

The country selection process considered a long list of: (i) countries with poor observational Hydro-Met data, (ii) fragile states, (iii) operational offices for most of the partners, (iv) Netherlands Government priority regions, (v) partners' active engagement with national stakeholders. The Netherlands Red Cross delegations in 12 countries gave direct input to the short listing based on National Societies priorities, as well as IFRC.

This proposed program will focus on the **East Africa Region**, where more than 51.5 million people are expected to suffer high level of food insecurity<sup>21</sup> due to a combination of climate extremes with conflict, instable livelihood systems, urbanization and a greater reliance on imports. Water risks in these countries are dramatically exacerbated by climate change, with extremely severe and unprecedented episodes of drought and floods, as well as a high burden of climate and water-related epidemics such as cholera. The partnership agreed to focus activity in **Ethiopia, South-Sudan, Sudan and Uganda**—all part of the White Nile basin. Working at a basin level will allow teams to build coordination across countries and maximize regional benefits.

The Nile River basin is an ecosystem under severe water stress, and almost half of the Nile basin countries are projected to live below the severe water scarcity level (1,000 m<sup>3</sup>/person/year) by 2030. Recent studies show that climate change is predicted to increase the variability of the flow of the river, indicating a greater likelihood of both flooding and drought.<sup>22</sup> Despite significant investment in



#### Armed conflict in Sudan

Sudan is at the moment facing an important crisis. An armed conflict between different groups of the military government of Sudan began on 15 April 2023, when clashes broke out in cities, with the fighting concentrated around the capital city of Khartoum and the Darfur region. Hundreds of people had been killed and injured and thousand are displaced internally or fleeing the country crossing to Chad, Egypt, Ethiopia and South Sudan. The inclusion of Sudan in this proposal is maintained on-hold waiting for further developments. When the situation gets more stable an assessment will be carried out to evaluate the feasibility of this action in the given timeframe. If Sudan is not eligible for this action an alternative country, most likely in the same region and where feasible same river-basin, will be proposed.

<sup>19</sup> [Water Scarcity in Africa: Everything You Need to Know \(globalcitizen.org\)](https://www.globalcitizen.org/en/content/water-scarcity-in-africa-everything-you-need-to-know/)

<sup>20</sup> [eastafrica\\_climateriskreport\\_31012022.pdf \(metoffice.gov.uk\)](https://www.metoffice.gov.uk/news/2022/03/31/eastafrica-climateriskreport-31012022.pdf)

<sup>21</sup> <https://www.icpac.net/news/in-eastern-africa-over-50-million-to-face-acute-food-insecurity-in-2022/>

<sup>22</sup> Siam and Eltahir, 2017 - <https://www.nature.com/articles/nclimate3273>



data availability for the Africa continent, large Global Basic Observing Network (GBON) data gaps continue to exist - Least Developed Countries and Small Island Developing States are generating less than 10% of the mandatory GBON data.<sup>23</sup> In Africa, the situation in relation to data is dire and continues to worsen. For example, from 2015 to 2020, the availability of radiosonde data—the most important data source for improved forecasts—dropped by 50 percent.

Some good interventions in the last decade have attempted to create a regional flood preparedness and early warning program.<sup>24</sup> However, despite the progress in transnational collaboration, there are still gaps such as lack of quality hydrological, meteorological and climatological data, risk knowledge base and shared tools for analyzing current and future trends.

The four countries in this initiative have taken steps to set up multi-hazard EWS and made a commitment to keep improving their systems, make it more inclusive and community-based while encouraging better coordination among national, regional and international entities as well as among partners across different sectors involved in disaster-related activities. Three of the four countries have already requested SOFF funding to improve availability of local observation data needed to improve accuracy of EWS in place.<sup>25</sup>

Country-specific contexts are summarized below.

### 3.1. Ethiopia

Ethiopia is a country naturally exposed to highly variable rainfall, and recurring meteorological droughts are a challenge that is compounded by growing water demands, and watershed degradation. The climate risk country profile states that climate change is expected to increase the risk and intensity of flooding as well as increase the likelihood of water scarcity for certain areas of the country.<sup>26</sup> Southern and Eastern parts of Ethiopia, including Afar, Somali (which does not share a border with Eritrea), and Oromia regions, are often hit by severe droughts (such as the Horn of Africa drought in 2011), with the Gambella region suffering from flooding. Changing rainfall patterns are expected to have additional serious implications for harvests and pastoral rangelands, particularly for Oromia and western Somali regions. Given the country's history and climate vulnerability trends, risks to food security remain a high-concern priority. The overall humanitarian situation in Ethiopia has significantly deteriorated in 2022 due to ongoing conflict and violence, and climatic shocks. Ethiopia is experiencing one of the most severe droughts in the last forty years, following four consecutive failed rainy seasons since late 2020. The WHO/UNICEF Joint Monitoring Programme (JMP) 2020 report notes only 12.6% of the population has access to safely managed water services, which are severely compromised in the context of drought.<sup>27</sup> Different studies highlight important challenges around gender, equality and inclusion in the water agenda in Ethiopia.<sup>28</sup> Women, girls, and people living with disability disproportionately experience poor access to quality WASH services. Women and girls participate in unequal domestic labor related to water management which often exposes them to discrimination and violence. Recent studies on the draught that has affected the country showed how disaster affect women and expose them to violence and especially to SGBV.<sup>29</sup> There have been several initiatives in Ethiopia focusing on resilience strengthening with ecosystem restoration to improve water security, starting from the reforestation campaign of the 1980s to the current "green legacy" initiatives. However, these actions are often not locally led and therefore present sustainability and ownership issues. It is important to note that a great investment has been made in Ethiopia to mainstream disaster risk and climate change concerns into public investment programs.<sup>30</sup> The Ethiopian government with the support of the IFRC Network recently produced a "Multi-Hazard and Impact Based Early Warning and Early Action Roadmap (2023-2030)", officially launched in Ethiopia in December 2022.

Disaster management and EWS have yet to be extended to local (kebele) level, and there are gaps in information flows from federal systems to community level. Major gaps in the country around water-related risks include the following:

<sup>23</sup> As of January 2023.

<sup>24</sup> Like the Nile Basin Initiative (<http://ikp.nilebasin.org/en/content/flood-preparedness-and-early-warning>)

<sup>25</sup> Two countries are already included in SOFF first batch of countries: <https://alliancehydromet.org/wp-content/uploads/2022/11/Decision-item-3.4-Adoption-of-first-batch-of-SOFF-programming-countries.pdf>

<sup>26</sup> [https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15463A-WB\\_Ethiopia%20Country%20Profile- WEB.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15463A-WB_Ethiopia%20Country%20Profile- WEB.pdf)

<sup>27</sup> [JMP \(washdata.org\)](http://washdata.org)

<sup>28</sup> Assefa GM, Sherif S, Sluijs J, Kuijpers M, Chaka T, Solomon A, Hailu Y, Muluneh MD. Gender Equality and Social Inclusion in Relation to Water, Sanitation and Hygiene in the Oromia Region of Ethiopia. *Int J Environ Res Public Health*. 2021 Apr 17;18(8):4281. doi: 10.3390/ijerph18084281. PMID: 33920729; PMCID: PMC8073105.

<sup>29</sup> <https://africa.unwomen.org/en/digital-library/publications/2022/05/gender-alert-on-drought-in-ethiopia>

<sup>30</sup> Ethiopia is included in the first batch of SOFF programming countries and a SOFF readiness phase funding request is expected to be considered by the SOFF Steering Committee 30 March 2023.



1. Knowledge gaps around indicators and magnitudes of water risk
2. Capacity to produce water risk forecasts and timely predictions
3. Effective communication and use of tailored early warning messages that are often not well understood by stakeholders/communities
4. Gaps in local action plans, with low technical capacity, limited clarification about responsibilities and shortage of funding for early action and early response

### 3.2. South Sudan

Historical records show a large year-to-year variability in precipitation, and projections show that more frequent and extreme flooding is to be expected in many parts of the country, although there is significant uncertainty about long-term precipitation trends.<sup>31 32</sup> Climate-related hazards may intensify intercommunal conflicts over natural resources, driving population displacement and worsening food insecurity.<sup>33</sup> Women in South Sudan are the one suffering the burden of conflict and intercommunal clashes. Child marriage is pervasive and used as coping strategies during hazards and consequent lack of livelihoods.

Exceptionally severe floods in 2019 and subsequent years of high rainfall were a stark reminder of the country's vulnerability to natural hazards. By the end of 2022, floods had affected 1.1 million across 39 counties. Overall, the total flooded area in South Sudan continued to surge and could expand further towards the seasonal maximum in early January 2023.

The national climate change profile includes a projection to 2100 of extreme rainfall events and increasing temperatures in the country.<sup>34</sup> Due to changing climatic conditions, South Sudan has been warming at a rate that is two and a half times greater than the global average air temperature change (0.4°C per decade), with projections estimating a temperature rise of 1°C by 2060 from 2020 values.<sup>35</sup> The pressure on water resources, as well as the direct impacts of increasing temperatures and more extreme rainfall, will likely put further strain on the agricultural sector, on which most of the population depends. Large dependence on rain-fed subsistence agriculture, and large-scale food insecurity even in times of good harvests, makes the climate-sensitive agricultural sector a primary concern. Existing water resources are unequally distributed - the JMP database shows for 2020 a total of only 33% of population in South Sudan had access to basic water services.<sup>36</sup> There has been high investment in DRR and water management in South Sudan however, there is still a significant amount of progress still to make to integrate hazard, exposure, vulnerability and climate data. This will help guide the country's investments and actions to reduce disaster risk at national and local level.<sup>37</sup>

### 3.3. Sudan

Sudan is exposed to several geophysical and climate-related hazards, some of which are increasing in frequency and magnitude. Sudan has seen unprecedented spikes in acute food insecurity, due notably due to dry spells and erratic rains and socio-economic variability, whilst simultaneously dealing with floods. Severe floods have resulted in record numbers of people in need of humanitarian assistance.<sup>38</sup> Several vulnerability indices rank Sudan among the most vulnerable countries in the world to climate variability and change. A recent assessment of disaster risk management capacity in Sudan revealed that the relevant agencies in Sudan were insufficiently prepared and ill-equipped to adequately respond to large scale disasters like the 2020 floods.<sup>39 40</sup> The sheer size of the country poses an enormous challenge, as do the investments and logistics required to provide safe and affordable services. Sudan's overall water facility system functionality sits at about 73%. The 2020 JMP database shows a total of 60.4% of population in Sudan has access to basic water services.<sup>41</sup> Women bear a disproportionate burden from climate change, in Sudan where they are largely responsible for household food security and child rearing, while having a limited voice in decision-making.

<sup>31</sup> World Bank Knowledge Portal, 2021 <https://climateknowledgeportal.worldbank.org/country/south-sudan/climate-data- historical>

<sup>32</sup> [https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/services/government/eastafrica\\_climateriskreport\\_31012022.pdf](https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/services/government/eastafrica_climateriskreport_31012022.pdf)

<sup>33</sup> <https://reliefweb.int/report/south-sudan/how-does-climate-change-affect-peace-and-security-south-sudan>

<sup>34</sup> [afdb\\_south\\_sudan\\_final\\_2018\\_english.pdf](https://afdb.south_sudan_final_2018_english.pdf)

<sup>35</sup> Initial national communication to the United Nations Framework Convention on Climate Change. Government of South Sudan, Ministry of Environment and Forestry, 2018

<sup>36</sup> <https://washdata.org/data/household#!/ssd>

<sup>37</sup> South Sudan is included in the first batch of SOFF programming countries and a SOFF readiness phase funding request is expected to be considered by the SOFF Steering Committee 30 March 2023.

<sup>38</sup> IFRC, 2022. <https://www.ifrc.org/emergency/sudan-floods>

<sup>39</sup> Ibid.

<sup>40</sup> Sudan has already requested SOFF support which is being reviewed by the SOFF Steering Committee.

<sup>41</sup> <https://washdata.org/data/household#!/ssd>



Sudan initiated a water sector review in 2019, funded by donors including the World Bank. There has been a great investment in integrated water resources management, with a focus on flood resilience specifically. Despite progress, there is still a need for putting in place foundational policies and systems for flood risk management and safety protocols for water harvesting structures. In Sudan, 90% of water use is for irrigation purposes. Due to a changing climate with expected increases in temperature, leading to higher evaporation rates, concerns are increasing around a potential decrease of total available water. Erratic rainfall patterns bring seasonal challenges in water supply, impacting agricultural and pastoral livelihoods made vulnerable by shortened seasons, drought events and changes in pasture availability.<sup>42</sup>

### 3.4. Uganda

Uganda experiences extreme weather, which leads to mudslides, landslides and flooding, both flash floods and riverine floods, notably in urban areas, low-lying areas, areas along riverbanks and swamplands. The climate risk country profile states that areas most prone to floods are the capital city, Kampala, as well as the northern and eastern areas of the country.<sup>43</sup> Heavy rainfall in arid areas has led to flash flooding, causing infrastructure damage. Areas such as Gulu District face large challenges in the rainy seasons, as large areas of the district become impassable, often resulting in food shortages and inaccessibility to health facilities and schools due to the destruction of roads and bridges from flooding. The most drought-prone areas in Uganda are the districts in the 'Cattle Corridor.'

Extreme drought has been most prevalent in the Karamoja regions, which has resulted in frequent agricultural losses and significant food insecurity concerns. Increasing heat risks are expected to occur in areas with decreased water availability, with the likelihood to increase impacts of drought. Uganda's vulnerability is exacerbated by high levels of economic poverty, high concentration of refugee populations and its high economic dependence on 'climate sensitive' sectors such as agriculture, fisheries, tourism, and forestry. Uganda has benefited in the past from river basin management interventions including flood risk management. Droughts have increased in Uganda over the past 60 years. Over the past 20 years, western, northern and north-eastern regions of Uganda have experienced more frequent and longer-lasting drought conditions.<sup>44</sup>

According to several studies, the impacts of climate change-related disasters, in particular drought, landslides and flood events, have exacerbated existing gender inequalities in Uganda. Ground and surface water depletion in Karamoja sub-region, for example, affects women since they have to travel longer distances, spending more time in search of water, food and fuelwood, thus increasing their workload while putting their personal security and physical integrity at risk.<sup>45</sup>

Despite the progress made in the last decade, existing mechanisms for emergency preparedness and response coordination remain inadequate in Uganda. National and local coordination groups lack tools for timely collection and exchange of information and identification of the needs of affected populations. Moreover, several disaster-prone districts lack effective disaster preparedness and response plans to effectively mitigate and cope with the devastating effects of disasters in the country. Additionally, non-climate stressors such as inadequate infrastructure to handle the increasing population are also impacting the vulnerability to water-related risks and longer-term climate change. For example, JMP 2020 report shows that only 16.6% of Uganda's population has access to safely managed water services.<sup>46</sup> Environmental degradation, limited irrigation systems, and near-absence of disaster preparedness at the community level are contributing factors to increasing drought risk in Uganda.

<sup>42</sup> <https://www.climatecentre.org/wp-content/uploads/RCCC-ICRC-Country-profiles-Sudan.pdf>

<sup>43</sup> [https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15464-WB\\_Uganda%20Country%20Profile-WEB%20%281%29.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-05/15464-WB_Uganda%20Country%20Profile-WEB%20%281%29.pdf)

<sup>44</sup> <https://climateknowledgeportal.worldbank.org/country/uganda/climate-data-historical>

<sup>45</sup> see [UGANDA COUNTRY GENDER PROFILE \(afdb.org\)](#) as well as [PA00XBV1.pdf \(usaid.gov\)](#)

<sup>46</sup> <https://washdata.org/data/household#!/ssd>







Olav A. Saltbones/Norwegian Red Cross/2022/Somaliland (Somalia)

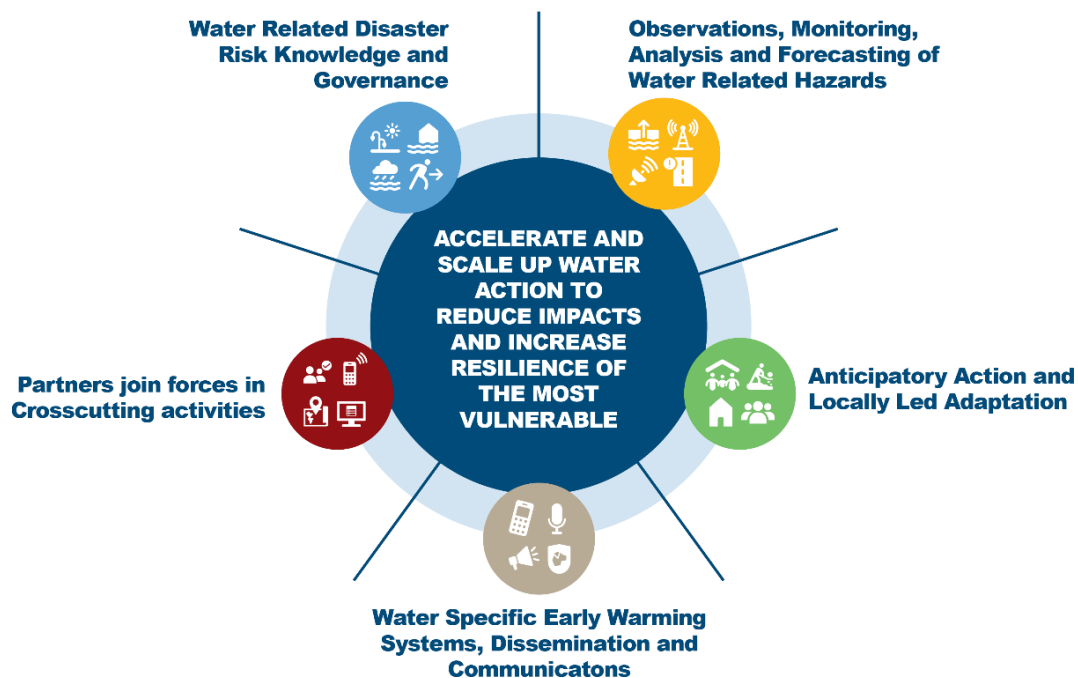
Hashi Bihi Jama had 100 animals in 2020. Now he has lost all of them due to lack of pasture and water. His major worry now is to survive. Hashi Bihi Jama is standing near a water dam managed by the community that holds the last amounts of water. He reports not being able to manage the risk of having too little water in his community and what to do if this risk persists or even increases in the future. Helping Hashi Bihi Jama and his community to understand better this water-related risk and how to act is an important part of this initiative.



## 4. INTERVENTION LOGIC

This initiative aims to enable different actors at global, national and local level to more effectively manage water-related risks. This strategy has been developed recognizing that the current climate change and water crisis in Africa are inextricably linked and require systemic changes. This intervention plans to drive that change using an integrated climate and water approach to deal with increasing exposure to water related risks. A change of systems and mindset is done by bringing together different disciplines in the water, climate and disaster management sectors and fostering the collaboration of global, national and local partners that traditionally have been working separately. This will be done by breaking barriers among sectors and organizations and establishing a model of cooperation that will enable different actors to achieve common goals. The aim is forging new relationships that will go on to deliver other strategic results in future, beyond this initiative. Gender mainstreaming and diversity inclusion will be integrated in all the technical areas ensuring access and participation of marginalized groups; gender and protection analysis, gender equality and women leadership in policies and when possible, at institutional level are key to the success of this intervention. Meaningful involvement of all members of the community in the decision-making process and activities is foreseen by applying PGI tools in all phases of the country interventions. Protection mainstreaming and safeguarding elements will also be adopted at the country level and in line with country specific plans.

This initiative is structured around 5 broad technical focus areas (Figure 3). A more detailed theory of change is provided in [Annex 2](#). National partners (including national Governments) in each country will set their own priorities around these focus areas, with decisions delegated as close to communities as possible. This will allow for maximum flexibility and impact depending on the available capacities in the country. Core activities are noted below. These will be developed in year one by country teams into country-led workplans. See [section 5.1](#) (Phased Approach) and [section 7.1](#) (Governance Structure) for further details of how we envision to collaborate and deliver on the result areas.



**Figure 3.** 5 Technical areas of work

Each technical focus area is critical and interrelated, but the level of investment will not be equal across the technical focus areas. The technical focus area on Anticipatory Action and Locally Led Adaptation will receive more investment, as it will be crucial to the success of the partnership to prove how integrated approaches deliver tangible results at the local level.



Specific interventions to enable the acceleration and scale up of water action may change based on the local adaptation strategies and priorities. Not all sub-activities will be completed in all areas, and actions will build on existing initiatives and funding. Timelines of engagement will vary across the partners.

For each technical focus area, the key collaborations across the partners are highlighted. These aim at creating the systemic change needed to support local implementation and successfully scale up and accelerate water actions. We have designed a program management system that will bring the global networks and national partners together around common goals.



## Technical focus area 1: Water Related Disaster Risk Knowledge and Governance.

Led by UNDRR

**This action accelerates the investment in risk-based decision-making and therefore enhances participation.** It proposes to generate weather- and water-related disaster risk information that combines local, national, and global level data to inform decision-making to support affected communities with community-centered solutions. This can be only achieved in a conducive institutional environment where DRR, climate and water policies and programs are better connected, not siloed, and influenced by local priorities, leading to improved delivery at community level.

Key activities:

1. **Improving production of, and access to risk information to inform decision-making** by streamlining a methodology for country-level water risk assessment, generating detailed exposure and vulnerability data in hotspots areas, generation of data products to improve local water risk knowledge and integration of risk information in systems accessible by the decision makers.
2. **Enhancing national/local capacity to use risk information to inform decision-making**—strengthening multistakeholder coordination and participation, including Women, PwD's organizations or other organizations that protect people excluded by the water risk related information, providing capacity building, supporting local actors to generate and use water risk information to guide early and anticipatory actions and integrate the countries into the Africa Early Warning Network. Digital capacities of local partners will be strengthened to sustain open source EWS platforms that keep improving beyond the life of the programme.
3. **Mainstream** (according to established protocols) **increased DRR knowledge and information** in the EWS-Early Action value chain. A specific focus will be put here on meaningful participation of women, People with Disabilities' Organization as well as collaboration with communities holding Indigenous and traditional knowledge.
4. **Strengthening monitoring and reporting systems of local governments** providing technical support also to report on Target G of the Sendai Framework.<sup>47</sup>
5. **Convening policy dialogues at national, regional and global levels** to identify gaps (including in participation of women and other local stakeholders) and entry points in the early warning early action value chain at national and regional levels. This will highlight opportunities for partners to collaborate and invest, including strengthening linkages to water action.
6. Identify gaps and opportunities in the national level **Early Warning Early Action value chain** for partners to collaborate and invest, including strengthening linkages to water action. This activity would build on the work of the Risk Informed Early Action Partnership.

Key collaborations to enable systemic change:

- UNDRR will collaborate with the IFRC Network to improve and validate data, promote decision-making informed by community level knowledge/community priorities on water action, influence others so that investments target priority needs, and promote policy making that can scale investments.
- UNDRR will collaborate with WMO and the IFRC Network to ensure that weather- and water-related risk information is accessible and usable by disaster management counterparts.
- All partners will strive to promote and use risk information in an integrated way and work on capacity building to ensure decision makers are connected to integrated systems and action plans at all levels.

<sup>47</sup> Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to the people by 2030



- With the Centre of Excellence for Climate and Disaster Resilience support, joint capacity strengthening of stakeholders integrating knowledge from all partners.
- All agencies in this consortium have data policies that commit to data sharing, open data access and data transparency following a FAIR (Findability, Accessibility, Interoperability, and Reuse of digital assets) approach. In particular WMO policy reaffirms the commitment to the free and unrestricted exchange of data and information on weather, water and climate-related services delivery. Data and products will be available for use by researchers and practitioners to build innovative tools or products that complement this action.



## Technical focus area 2: Observations, Monitoring, Analysis and Forecasting of Water Related Hazards.

Led by WMO and SOFF

To manage water-related hazards at community level and build resilience, it is essential that weather, climate and water data information and services are established, understood and used by national and local actors. This requires **increased investment in strengthening regional, national and local Hydro-Met capacity**: improved and user-centered designed weather and climate prediction products and national and regional Hydro-Met service capacities (analysis, data management, products).

Some key activities related to this technical focus area are:

1. **Improve production of, and access to climate, weather and water forecasting/prediction products to inform decision-making.** Including developing hydrological modeling and forecasting systems at the national levels and piloting options to improve monitoring, forecasting and communications systems (via national and regional governments) around community priorities assessed with the partners in the IFRC Network.
2. **Improve acquisition and sharing of observational data** at the regional level by establishing and verifying GBON<sup>48</sup> national gaps. Through the provision of grant financing and technical assistance we will support the sustained collection and international exchange of surface-based weather and climate observations according to GBON regulations. In an initial phase consideration about free and commercial satellite data will be considered. GBON data is complementary to satellite-based observations for weather forecasting. SOFF works with the European Centre for Medium-Range Weather Forecasts (ECMWF) who uses satellite observations for the production of their forecast products. SOFF offers to target countries real-time access to ECMWF data and a large catalogue of free and open graphical products.
3. **Support the set-up of multi-hazard monitoring systems at national and local level** by integrating and improving existing systems, integrating national and local data collection and prioritizing community needs. Improve the modelling of existing systems by partners in the target countries. Build capacity of national agencies and communities to operate and maintain those systems.
4. **Develop capacities and systems to improve national and local water/disaster data management, analysis and products** by contributing to the joint capacity building of decision makers at disaster management agencies and organizations with other partners to ensure the use of climate weather and water data is streamlined.
5. **Build capacities of National Meteorological and Hydrological Services (NMHSs), disaster management, communities etc. on mainstreaming gender into end-to-end early warning systems for flood forecasting<sup>49</sup> and integrated flood management mainly to incorporate gender-sensitive needs, strategies, and actions through a participatory design approach.**

Key collaborations to enable systemic change:

- WMO and SOFF will strengthen NMHS with observation networks so that data is accessible and usable to decision makers as well improving the acquisition of data used for modeling, forecasting and warning services based on local needs.
- WMO through NMHS and the IFRC Network will ensure early warnings are shared with relevant national stakeholders including community. WMO reviews existing EWS set up by IFRC Network in the target countries to identify gaps and improvements in the trigger modelling and how to connect

<sup>48</sup> <https://community.wmo.int/activity-areas/wigos/gbon>

<sup>49</sup> <https://www.floodmanagement.info/get-help/end-to-end-early-warning-systems-for-flood-forecasting-e2e-ews-ff/>



- to integrated systems maintained by NMHS.
- Once the monitoring and forecasting systems are established at national levels, the warning services will be established for users such as national and local agencies, NGOs, International Organizations and communities in a coordinated, participatory and holistic approach. This will be done in close collaboration with technical focus area 3.
- SOFF will support access to finance to enhance the national weather observation network, including for operations and maintenance through the SOFF compliance phase.  
All partners contribute to joint capacity building of stakeholders integrating state-of-the-art climate and weather data in decision-making for resilience programming and disaster management.  
WMO in collaboration of NLRC will conduct training and capacity development activities on gender mainstreaming into different phases of flood management (data collection, modelling and forecasting, early warning information dissemination, decision-support and response to warning).

### What is the difference between WMO and SOFF UN Multi-partner trust fund?

Under the scope of the proposed project, WMO will strengthen NMHSs capacity on the use of hydro-meteorological observational network so that data is accessible and used for developing modeling and impact-based forecasting for floods and drought early warning services. SOFF is a fund implemented by operational partners and implementing entities to develop observing infrastructure, enhance national observations and access to improved weather and climate forecasting products. The establishment of an observing infrastructure is exclusively informed by the national meteorological office, which will receive SOFF support to conduct the necessary analysis and develop the investment plan for the acquisition of observing equipment and infrastructure. SOFF is mandated to close the internationally agreed Global Basic Observing Network (GBON) data gap while WMO is responsible for the technical screening of the GBON progress and compliance.



## Technical focus area 3: Water Specific Early Warning Systems, Dissemination and Communications.

Led by IFRC Network

To reduce extreme water risks at community level, with the support of Red Cross red Crescent National Societies it is vital to build scalable water risk preparedness and response through effective early warning and early action systems that are water specific, inclusive and community co-designed. This action aims at **reducing the disconnection between communities and national level early warning systems.**

The activities will be based on the identified priorities of the IFRC Network partners in the four focus countries and executed locally. Some key activities related to this technical focus area could include:

1. **Understand the information gaps and barriers at the community level** by identifying the gaps and barriers, including gender, age and disability barriers, in existing information flows and data around water risks and disasters. These gaps will be used in policy dialogues to improve the information systems and ensure the relevant information reaches the communities in a timely manner and in a format that can allow also people with disability, illiterate and other marginalized groups to access it as well as shaping improvements of climate weather and water data services implemented in Technical Focus Area 2.
2. **Improve the ability of communities to act upon an early warning message** by co-designing early warning messages that are tailored and tested with and for communities and paying attention to gender, age and disabilities specific challenges. Test and learn from a range of options for use in national and community systems, co-develop community contingency plans, support to activate and roll-out evacuation plans related to extreme water risks, applying risk information in the development and execution of simulation exercises.
3. **Build capacity in the communities to respond to water-related risks and disasters** by connecting community-level disaster management groups with water user groups or community water committees, co-designing water safety plans and carrying out related community surveillance of catchment areas around evacuation routes and centers. Work with local actors to facilitate use of water risk, climate, weather and hydrological information for decision-making, particularly around the implementation of locally led adaptation activities.
4. **Strengthen national-scale early action protocols** by connecting them to community plans,



enabling community feedback mechanisms to fine-tune activities, co-designing EWS with community participation to reduce extreme water risks (linking with tasks under technical focus area 2 on integrating community led observational meteorological and hydrological data).

Key collaborations to enable systemic change:

- IFRC Network will collaborate with WMO to ensure early warning and early action services are informed by country-owned, fit-for-purpose climate, weather and water services and ensure the right information is accessible to the humanitarian system in a useful and actionable form.
- IFRC Network will work with UNDRR to unblock barriers around the timeliness and effectiveness of EWS by streamlining processes and information flows to improve useability, design and decision-making from national to the community level.
- All partners will collaborate around joint capacity building and ensure data around risk, climate, weather and water is accessible to decision makers in the communities in formats which encourage action.



## Technical focus area 4: Anticipatory Action and Locally Led Adaptation

Led by IFRC Network

Building resilience requires increased water security in vulnerable communities facing climate change variability. Therefore, greater investments need to be made to ensure access to safe and sustainable water for human consumption but also for economic activities (farming or herding). These investments need to be protected through appropriate anticipatory action and locally led water adaptation. It is also critical to increase the anticipatory and adaptive capacity of water and DRR authorities and communities at national and local level and foster their cooperation and joint action to help communities address water related risks. This action is dedicated to implementation of community-level water actions **integrating anticipatory action with longer term actions aimed at improving the climate resilience of communities with a user-centered approach.**

The activities will be based on the identified priorities of the IFRC Network partners in the four focus countries and executed locally. Key activities related to this technical focus area could be:

1. **Accelerating and scaling up local strategies for anticipatory actions to water related disasters.** Integrating improved climate and water data at sub-national and community level in existing EWS for water-related hazards (floods and droughts) and contingency plans. Improving processes and triggers (e.g., including cascading events) by working together with local authorities. Ensure PGI and AA link in order to protect the most exposed and vulnerable to disaster.
2. **Improving early actions related to water risks** by strengthening the effectiveness and selection of water-related early actions, improving early action within WASH service packages, and strengthening the connections of anticipatory action with water conservation and management practices.
3. **Accelerating and scaling up local water strategies for locally led adaptation** by executing community-based vulnerability and capacity assessments (enhanced vulnerability and capacity assessment<sup>50</sup>) to identify those most affected by water-related risks. Setting up water committees and connecting them to disaster risk management groups, in collaboration with local authorities. Conducting gender analysis and gender mainstreaming action to support local practices for water conservation, management and supply in rural and urban contexts. Meaningful participation of local CSOs and Women's groups at local and national level will be facilitated both at global and national level.
4. Upgrade water facilities to be climate resilient. Incorporate risk and climate data into WASH practices. Implement measures to protect safe and sustainable access to water in collaboration with local authorities.

Key collaborations to enable systemic change:

- IFRC Network will work with WMO to ensure water actions are informed by easily accessible and usable, locally owned climate and weather information.
- IFRC Network will cooperate with UNDRR to ensure necessary water action is supported and scaled

<sup>50</sup> <https://www.ifrcvca.org/>



up by national policies and investments. In addition, they will advocate for addressing climate impacts in local WASH policies, including improved dialogues between national- and municipality/community-level actors.



## Technical focus area 5: Crosscutting Activities

Led by IFRC Network with responsibilities for all Partners.

This action will invest in crosscutting enabling activities to ensure a cross fertilization of learning and efficient knowledge management in order to deliver high-quality actions.

Key activities related to this technical focus area will include:

1. **Global influence/engagement/advocacy/humanitarian diplomacy:** all partners need to ensure work delivered in this program is linked and influences wider sector objectives (e.g., targeting of funding for loss and damage to the most vulnerable communities, and improving and accelerating climate finance e.g., GCF).<sup>51 52</sup>
2. **Gender equality advancement by hiring diverse and balanced Water-climate change teams:** advocating for a more gender and inclusive leadership at both local and national level for example by promoting women to take roles in meteorological offices or as weather forecasters.
3. **Protection, Gender and Inclusion (PGI):** as a criterial element of quality delivery. All partners will follow a PGI approach, e.g., by setting up a PGI-responsive early warning system through proper inclusion of women and marginalized groups (based on the gender and diversity analysis). the use of DAPS (dignity, access, participation and safety) standards in the design and implementation of locally led water strategies and adaptation measures will be adopted. Technical support to review processes and systems from a PGI angle will be provided by the IFRC network.
4. **Evidence gathering, learning, adapting:** in order to look at solutions that put communities at the centre of what we do so they become the true agents of change in this intervention. This action will create a range of learning channels at three core levels (decision-making for policy makers, practitioner level and community level). This will allow for cross fertilization among country teams. We will partner with local actors to document best practices and develop consensus models that can be easily adapted in another context facilitating future scale-up. Further tasks on learning are set out in [section 5.2](#) (learning and scaling success).
5. **Locally led innovation:** the national partners will promote locally led innovation around EWS and water management decision-making which are gender and age sensitive. User-led design processes will be deployed. At the policy and practitioner level, we will use co-design and co-development principles with policy makers to design relevant products which practitioners can implement with ease.
6. **Capacity strengthening:** one of the systemic changes in this program is to achieve joint capacity strengthening of national partners of IFRC, SOFF, UNDRR and WMO. This activity will set up a new capacity strengthening model (for example under the umbrella of the Centre of Excellence for Climate and Disaster Resilience) and explore innovative and non-traditional capacity strengthening methodologies, such as shadowing and mentoring initiatives that allow a more organic process of peer-to-peer learning.

<sup>51</sup> For example, a specific action under this activity is to engage Africa Union and link our activities to the operationalization of their climate change adaptation and resilience development strategy.

<sup>52</sup> All Partners will reserve funding and dedicate efforts to this task and PMU will coordinate regular coordination calls around global influence.





Juozas Cernius/IFRC/2021/South Sudan/Community gathers to provide feedback on intervention activities.

A meeting of rural villagers in Western Bahr el Ghazal State, at a small village near the town of Wau, South Sudan in 2021. People gather to provide feedback on community activities funded by different donors and talk with project officials who present results from recent work. Their feedback is collected in small focus groups. Women are shown pictures to illustrate progress and challenges and facilitate discussion.





## 5. MEASURING OUR IMPACT

### 5.1. Timeline – Phased Approach

We propose a five-year program, led from the national level and supported globally, with a possibility of scaling up depending on the speed of collaboration and implementation (and the potential for new donors).



**In year 1**, an inception and co-design phase will begin in each of the four target countries. This will start with a comprehensive assessment and desk review. The **assessment** will include a stakeholder analysis and will collect data at all levels to ensure that the project design in the workshop is guided by proper understanding of the stakeholder landscape, local needs and available resources and capacities. The desk review will include the study of existing aggregated data and information relevant for this action in current initiatives such as the EC JRC MARS ASAP, EC GMES in Africa, EC Copernicus Data Space Ecosystem, GEOGLAM, GEOGLOWS, NASA SERVIR, USAID FEWSNET, FAO WaPOR, WRI Aqueduct, Desinventar, Risk Information Exchange and other WMO Early Warnings at All technical resources. Where possible, data aggregation work will encourage the use of the FAIR approach. The aim would be to provide an overview (and verification) of available functionalities that could comply with specific user or service needs.

The **desk review** will look also at water and DRR initiatives around flood and drought management, mapping existing initiatives to avoid duplication, and promoting collaboration and complementarity with other processes and actors. Investing in a comprehensive assessment and desk review will ensure that we design country plans including strategy, data, stakeholder and intervention mapping, pooled data and systems on climate risk, losses and damage, pre-existing vulnerability assessments, national Hydro-Met services capacity, wider contextual data on water related risks, gender equality in water service provision and DRR. etc.

Following the assessment and desk review, **In-country workshops** including all stakeholders and partners will be held to co-design activities and partnerships. Private sector partners will also be mapped out and their participation will be considered when designing the country workshops. It is widely recognized that local private service providers (in transport, power, tele-communication sectors) play an important role in accessing, usage and dissemination of early warning and enabling rapid action. Engagement with the international private sector will be considered to fill specific knowledge and capacity gaps as needs arise. Also, SOFF investments seek the benefits of public-private partnerships (that work under the principle of free and unrestricted access) to achieve cost-effective and efficient implementation of the GBON National Contribution Plan.

In parallel, Member States included in this program will be supported to receive SOFF funding so investments in observational equipment can start. At this phase the country teams will engage with Dutch embassy focal points to build synergies and complementarities with the existing initiatives that the embassy is funding and / or promoting. Ethiopia, South Sudan, Sudan and Uganda national partners will lead the in-country process. The entire process will be coordinated by one of the partners depending on their current strengths and capacities. By the end of the inception phase, we will have **four locally led action plans** including PMEL frameworks and sustainability strategies. We will also have the collaboration and management platform in the form of a country technical working group that includes all partners and oversees the alliances established with local stakeholders.



Having a 1-year inception workshop is an important phase of this action as this will allow for rapid:

- 1) Adaptation of the approach for country level planning (objective setting, results and monitoring frameworks).
- 2) Identification and initial engagement with communities—including the most marginalized—to kick start co-production process, integration of gender-gap analysis and exploration of key issues requiring locally led action.
- 3) Mobilization of the country level partnership model and ownership, setting out clear roles and responsibilities at national and local levels and establishing and launching the partnership.

A regional workshop will be delivered in year 1 for stakeholders of all four countries to exchange experiences and discuss transboundary issues. In addition, the Hydro-Met offices in the four countries will progress SOFF funding applications in year 1 (many are on track) to improve the current availability of local data needed to e.g., improve the accuracy of EWS. We hope that this funding will flow in the following years based on the identified national priorities.

After year 1 inception phase is completed there will be an official approval process through which MOFA will approve country plan with detailed activities at country level and necessary alignment of global-national-local initiatives. In the budget a line on 'contingency and accelerator' is included to allow for flexibility and anticipation on activities and initiatives that are co-created during the inception phase.

**In year 2**, it is expected to **initiate implementation of the country action plans** agreed to in year 1. Year 2 will also see initiation of the (country-regional-global) policy dialogue facilitated by the partners and (joint) capacity building of national and local stakeholders agreed with the country teams in year 1 across the 5 technical focal areas of work. We recognize that countries will progress at different speeds, and it might be necessary to expand the inception phase for some countries. By the end of year 2, we will see integrated data systems and processes in place and some degree of institutional change in at least two countries.

**In years 3 and 4**, we will see full mobilization and results across all technical focal areas in all countries. We will start to extract learning and observe cross fertilization of good practice across themes and countries. This will also likely include some degree of learning from failures and adjustments for unexpected challenges. By the end of year 4, we will see the global Hydro-Met and risk data systems better linked and aligned with products and services that are relevant for countries and communities and that are fit for rapid scaling and replication through the global networks of partners. In year 3, the senior leadership team will assess options to initiate a second wave of country work if resources allow.

**In year 5**, countries will consolidate implementation and potentially move into another phase of programming. Responsible exit planning will be planned in those locations where the program will terminate, and we will invest heavily in building strong foundations for sustainability and scale up processes led by local actors where possible.

## 5.2. Learning and Scaling Success

We will take a learning approach to building strong contextual understanding of the communities we will work with. **In year 1**, a theory of change will be developed for each country, using the global theory of change as an overarching structure. These theories will be tested, corrected and improved through regular learning events and processes built into the program design. As the work matures, we will refine and reduce activities in each country to target resources where we are likely to have the deepest impacts. The concept of design thinking and **double loop learning** will be used to adapt programming in the most effective and impactful way, and ensure underlying causes, assumptions, mental models and theories are questioned and refined.<sup>53</sup>

All of this will build in learning loops and opportunities to share experiences (positive and negative) across communities in target countries and across countries. In this way, we will develop experience of what works and why. Investing in learning will allow us to take these lessons and share them within our own institutions (scaling internally) as well as advocating other institutions to adopt and adapt a similar approach (scaling externally).

The learning process will be articulated around regional and national **learning trajectories** that will be designed in year 1 and will start in year 2, reaching full potential in year 3 and 4. Each learning trajectory revolves around a main theme, identifies specific learning questions, and describes learning activities and mechanisms. Generation of field evidence will be central in this action to support advocacy activities and inform national and regional policy dialogues. We will engage with relevant external learning institutions/academia (regional and national) or local water experts to generate evidence and knowledge in

<sup>53</sup> <https://hbr.org/2018/09/why-design-thinking-works>



the areas of water and adaptation as necessary.

While year 3 and 4 are critical times for learning, **years 4 and 5** will be key to analyze the potential to scale up. This means accelerating the achievement of key results, expanding the action to other districts in country or even increasing the number of countries to reach more people and/or broaden the effectiveness of the intervention and make it long-lasting. Together with the sustainability strategy, this action will develop a scale up plan in collaboration with local actors.

### 5.3. Measuring Our Impact

A key action for measuring impact will be measuring changes to community resilience to water risks, as this is the ultimate goal of our work. In the inception phase, we will design a monitoring system to track strategic elements that contribute to the core form of community resilience: “the ability to bounce back and recover from adverse events”. Community-level work will build on the enhanced vulnerability and capacity assessment process of the IFRC network as a baseline for resilience. Gender, age and disability (and other factors identified in previous assessment) indicators will also be established at country level to measure advancement in inclusion of marginalized groups in all technical areas.

Outcome and output performance indicators will be measured through implementation of ongoing monitoring systems, others via dedicated data collections, and others via ad hoc but more comprehensive evaluation. Local actors will be encouraged to monitor progress and document achievements, disaggregating at least gender and age data<sup>54</sup> We will collect evidence of impacts together with knowledge partners (e.g., 4A Alliance<sup>55</sup>) and engaging local water experts.

Country-based reporting will create opportunities for cross-country and cross-theme learning. Baseline indicators will be set up for each country at the end of year 1. Progress will be measured, and impact will be assessed continuously ensuring learning, adjustment and improvements. At the end of the 5-year period, the intervention will run a final evaluation.

We will integrate a strong community feedback and response mechanism that enables the community members and stakeholders participating in the program to provide feedback and seek responses in relation to our activities in a manner that is safe, non-threatening and accessible. During evaluation special attention be given to the effective and active participation of community members during key decision-making and learning moments. National and global stakeholders and program staff will also actively contribute to program design, evaluation and course correction.

It is important that we build a strong foundation for sustainability from the outset so the outcomes generated are long-lasting and can be sustained beyond the life of the intervention. A sustainability strategy will be developed with all concerned actors in each country, stating what measures are needed to ensure proper financial, institutional, environmental, social and technical sustainability and clarifying roles and responsibilities for each actor after the intervention has concluded.

### 5.4 Sustainability and exit plans

There are also valuable lessons learnt from past initiatives that indicate that sustainability of EWEA systems and related anticipatory actions is low once project funding ends, especially in fragile setting like the ones selected for this action. This action will build sustainability following recommendations from previous experiences in those settings:

- 1) Designing behavioral informed EWS and local adaptation actions so we are able to understand better perception of risk and focus more and better on effective risk management behavior. The focus is not only placed on designing protocols or building hardware but on facilitating behavior change needed among stakeholders to action the protocols and maintain infrastructure in the long run.
- 2) Placing communities at the center, so solutions are co-created and respond to the needs and aspirations of all groups, especially the most vulnerable and those forcibly displaced. Communication for example is two-ways and multichannel and culturally appropriate so it is more likely to be acted upon.
- 3) Emphasizing outcomes that are reflected in resilience-aligned changes within institutional policies, strategies and priorities, the project will foster longer-term sustainability as well as transparency for the

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<sup>54</sup> Ideally linking and using existing performance systems so that monitoring, evaluation and learning tasks can be built into normal ways of working and not seen as an additional task.

<sup>55</sup> <https://www.anticipation-hub.org/news/the-4as-partnership-gathering-academic-evidence-about-anticipatory-action>

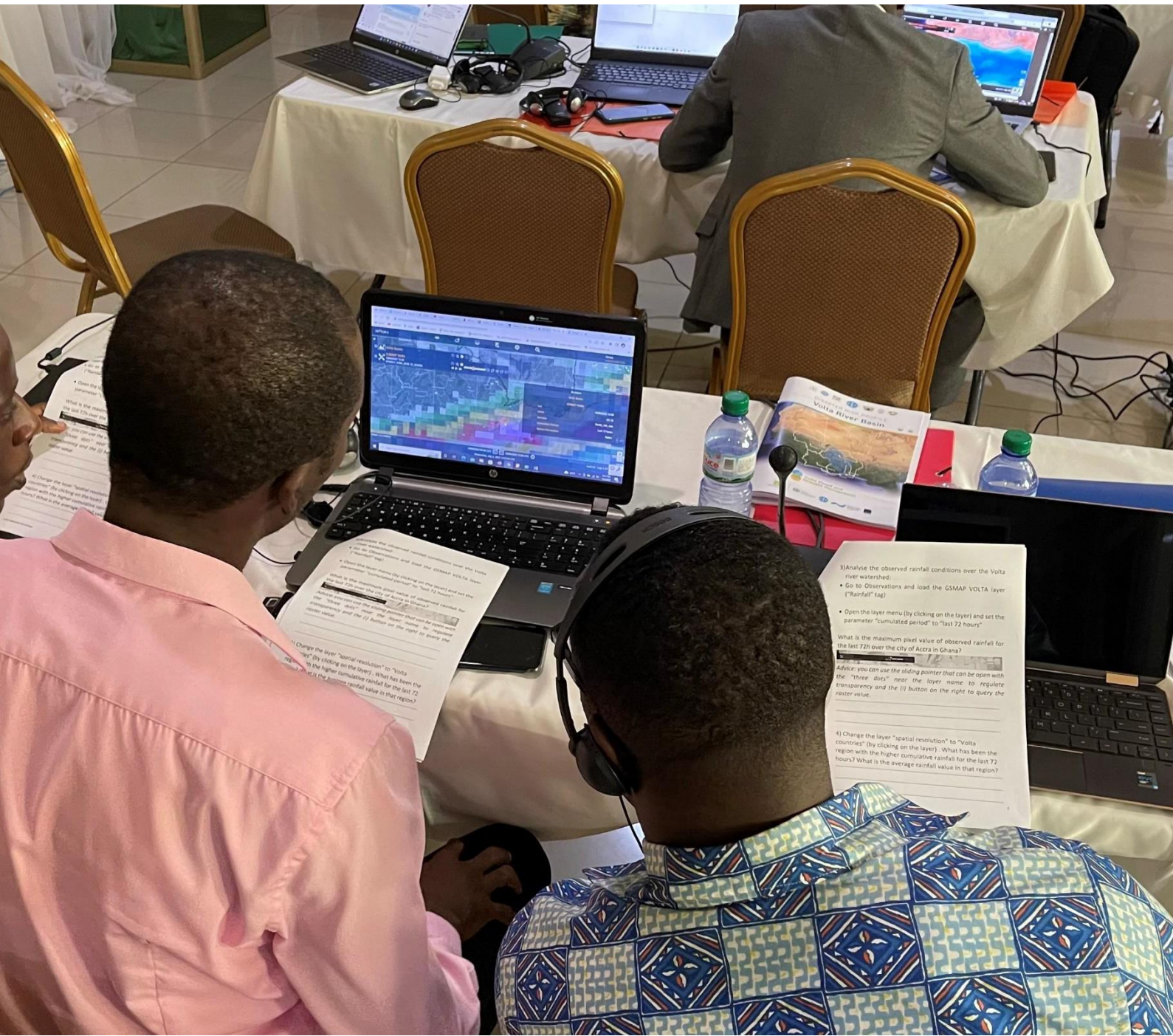
populations they represent and serve.

- 4) Conducting a comprehensive analysis of stakeholders involved the 5 technical areas of work in this action, promoting active coordination between humanitarian and developmental actors, governmental and non-governmental actors, to ensure the last mile delivery of actions in areas where local governments may lack the capacity to deliver on DRR and water priorities. The analysis will capture the best place actors for the delivery of actions and will build upon existing initiatives in place.
- 5) Using localization as the main guiding principle by promoting solutions that are co-created with communities and are technically sound while their maintenance is more sustainable for local governments, and they can be more easily managed relying only on local capacities and resources. Building the capacity of local partners to prepare follow up proposals to access climate funds or explore public-private partnerships that promote sustainable investments. This action will advocate for the consolidation of government financing instruments and ensure that climate finance made available from governments acts as a catalyst of cross-actor collaboration. Finance mobilization will be pursued in collaboration with all partners in this action. The Dutch Government will provide diplomatic support in government-to-government talks.
- 6) Working to co-create disaster risk reduction solutions with communities can also help ensure that communities are able to advocate for local investment in resilient sustainable development. Early investment in risk reduction actions can also reduce future disaster losses and unsustainable development choices.

SOFF brings an added value to this partnership in terms of sustainability as SOFF substantially contributes to covering operations and maintenance costs – in the long term and through results-based finance. This ensures that countries have the means for sustained generation and international exchange of observational data following GBON regulations, with payments made upon achievement of results. Continued peer advisor support in the compliance phase helps assure that the technical capacity of meteorological services in recipient countries is maintained.

Country teams will develop their sustainability strategies as part of the year 1 inception phase following the FIETS (financial, institutional, environmental, technical and social) sustainability model and specific budget lines will be allocated to support the delivery of the strategy. Exit plans will be devised in year 1 so they are properly budgeted, but they will be finalized at the end of year 3 continuous review and may need to be addressed in the second phase of implementation and reinforced in exit plans.





Ramesh Tripathi/WMO/2023/Togo/Hydrology, meteorology and water resources professionals of Ghana are trained for using the myDewetra Early Warning System.

Different partners contribute to this initiative through different mandates and unique added values. From satellites to sandbags - this action offers a multi-disciplinary partnership working across sectors and scales. In this photograph Eric Moula, (Water Resources Commissioner - Togo), Joshua Asamoah, (Ghana Meteorological Agency), and Sylvester Darko, (Senior Forecaster - Ghana Hydrological Services Department) look at data models included in the myDewetra Early Warning System. This training held in Togo in 2023 improved their skills in understanding climatic and weather data products.



## 6. RISK ANALYSIS

This new partnership has inherent risks, yet all partners have a common purpose to deliver solutions in a community-centric way that has the potential for scaling-up and replication. Risks related to the partnership are, for example, that many partners have not worked together before, and all have different mandates and institutional ways of working, so there is a risk of not being able to set up an effective collaboration. In addition, this programme will be implemented in four countries that are politically and economically very fragile, all suffering continuing disasters and conflict. The senior leadership team and the Programme Management Unit will monitor the risks already identified and carry out real-time risk analysis and management. Partners have considered risks carefully and set out clear mitigation plans. Our risk matrix and mitigation plan are set out in detail at [Annex 3](#).

## 7. PARTNERSHIP MODEL

### 7.1. Roles, Responsibilities and Governance Structure

The model is built on an approach where those who are excluded are put first (i.e., those most impacted by climate change and water-related risks and impacts). The governance structure and the programme structure reflect the community-centered approach, with the IFRC Network leading the consortium and allowing for a start-up phase that enables a fully country led approach. Activities of the partners focus on strengthening, accelerating and scaling up the local implementation via existing structures. The four networks involved in this initiative have unique global mandates:

- **IFRC network** has a mandate to build and strengthen the capacity of national societies to conduct effective humanitarian assistance at communities' level. National societies' access and everyday presence with the most vulnerable communities provides both community-level data, contextualized information on needs, but also the implementation for the activities in the communities. The network provides global community-level reach, scalability of approaches, capacity and lessons to over 160,000 local branches in 192 countries.
- **SOFF** as a multi-donor trust fund provides support to Small Island Developing States (SIDS) and Least Developed Countries (LDCs) through the provision of grant financing and technical assistance for the sustained collection and international exchange of surface-based weather and climate observations according to the Global Basic Observing Network (GBON) regulations.
- **UNDRR** supports governments of member states in developing DRR strategies and strengthening their capacity on collecting and analyzing risk and loss and damage data. They provide the entry point to the policy dialogue at the global, regional and country level, necessary to influence effective investments in the water and climate sector.
- **WMO** coordinates and supports the design, delivery and capacity development related to hydro-meteorological services in member states. They provide the entry point to the improvement and scale up of data and modelling services needed to provide actionable information products to decision makers.<sup>56</sup>



By having these partners working together, there is a strong likelihood of success in delivering transformational change in order to influence impactful water and climate policies and investments that will in turn accelerate and scale up necessary water actions. The country led approach ensures priority is given to actions which are led and owned at the community level (represented by the IFRC network in the 4 focus countries). During year 1 inception phase, the country teams will design their own country plans in line with project workplan and deliverables and will establish clear roles and responsibilities for each partner at country level. The definition of roles is guided by the framework developed in the concept note, the mandate of each agency and the design of the intervention. This alliance forms a **unique partnership**, spanning local to global levels. Community implementation and ensuring local-provincial-national-regional-global alignment is at the core of the structure and collaboration.

<sup>56</sup> The NMHSs will be the technical focal point in each country – they have the mandate to observe, forecast and provide early warning services. WMO will bring stakeholders from the targeted countries together to ensure water related hazards can be considered as a transboundary/regional challenge and managed through an integrated and participatory approach.



A simple governance structure is proposed for this alliance (Figure 4), with one senior leadership team which is informed by a Country Team Management Group. The Country Team Management Group will generate and share lessons across the 5 technical focus areas of activity. All partners are engaged in a range of strategic initiatives in the water and climate sector and will actively link the work delivered in this initiative where appropriate (see for an overview).

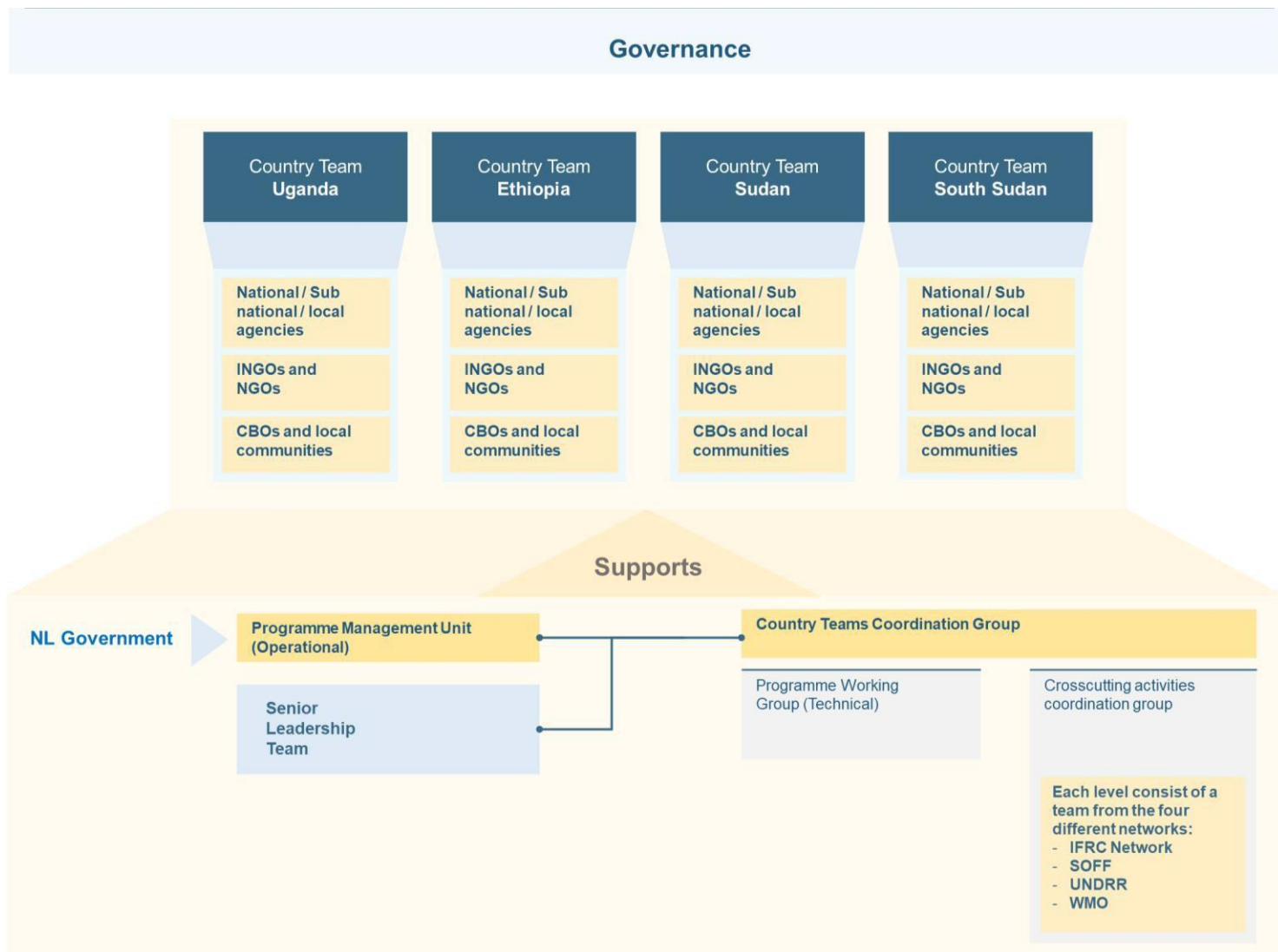


Figure 4. Governance structure

The alliance is made up of four global networks and seven entities with national and local partners to ensure implementation and ownership. Further details on how the roles will be shared across the partnership are available in [Annex 4](#).

The Netherlands Red Cross (NLRC) will lead this alliance in recognition of its unique position. The following characteristics place NLRC in a strong position because it:

- is part of a global network of 192 local National Societies through the IFRC, which speaks on behalf of the most vulnerable and connects actions from local to global.
- acts as a trusted and privileged interlocutor with the Dutch public, government, and private sector and plays a key brokering role to connect Dutch interests to an extensive global network which can significantly increase the impact of its programs and operations.
- is present in four of the selected countries where formal partnerships are established with local partners for implementation of activities at the community level. Through the IFRC network, the NLRC can facilitate operational partnerships globally, in the most at-risk and vulnerable contexts. The NLRC supports the development and strengthening of National Society partners, ensuring that



capacities can quickly be mobilized, and programs of all scales can be built up meeting high- quality standards.

- manages multi-partner alliances with large budgets (e.g., Partners for Resilience (2011-2020)) supporting local partners to deliver quality results within the compliance regulations set up by donors.
- already engages with external actors in multi-sector and interdisciplinary alliances on the water sector (Dutch and international). NLRC can effectively broker expertise and bring integrated solutions.
- provide strategic and technical expertise to the humanitarian sector on water, data and financial sustainability, all crucial areas for this initiative.
- connects actions from local to global scales without creating new structures - instead optimizing existing ones and investing in local solutions that meet local needs.
- utilizes existing financial-administrative systems established with MOFA for other large programs and partnerships.

## 7.2. Programme Management Model

National ownership is central to this partnership. Through national ownership and capacity strengthening of the institutions, we will ensure a powerful sense of ownership is created over the systems and preparedness mechanisms, see also figure 4.

At national level in the selected countries, a **Country Team (CT)** will be established. A country lead will lead and oversee the collaboration, alignment and co-creation of partners from the four networks (IFRC Network, SOFF, UNDRR and WMO) on national plans and task division in the inception and implementation phase. A nominated Country Lead will sit in the **CT Coordination Group**, which will link in with the **Senior Leadership Team (SLT)**.

The national teams are supported by a technical **Programme Working Group (PWG)** that oversees progress, alignment across local-global level and can take operational decisions on program implementation as appropriate and in close cooperation with the country teams. The PWG also ensures technical and strategic guidance and support to the country teams.

A **Crosscutting Activities coordination group** will be established to ensure that the advocacy and influencing actions are based on evidence from CTs and leveraging existing work within the four global networks.

A **Senior Leadership Team (SLT)** will be established that will meet at least every 6 months and on request by CT, PWG or PMU. The SLT will provide strategic steering on the program, budget, strategy, external relations and other funding opportunities.

An operational **Programme Management Unit (PMU)** will be established in the Netherlands Red Cross. This will be a single point of contact for the Netherlands Government, providing regular updates and strategic management information as well as meeting all necessary reporting requirements (in cooperation with all partners). The PMU also creates strategic documents to be endorsed by the PWG that serve as the requirements/boundaries in which the country teams have opportunities to co-create and shape the country program and ownership.

The PMU will establish:

- Contracts with the partners in order to hold partners to account and be transparent in our targets and objective (across the partnership and beyond)
- Simple ways of working (expectations/code of conduct) and communications protocols
- Finance management
- Monitoring, Evaluation and Learning systems with a strong focus on quality assurance systems
- A secretariat for the senior leadership team and country leadership teams
- Knowledge and information management systems (document storage, project data, communities of practice etc.)







Somali Red Crescent/2022/non-functional water facilities in Somalia.

Gacnafale village in Somalia, in partnership with the Government and other donors, has invested in improving water systems in the last decade. However, their facilities are not currently working due to the severe drought affecting the area, shortages of fuel and poor maintenance. This initiative will invest in upgrading existing non-functional water facilities to make them climate resilient.



## 8. BUDGET

The full budget for this initiative is 55 million EUR, divided among the four networks within the alliance. Below the total alliance overview, split per partner and year, split per technical focus area and split per implementation country.

WATER at the HEART			Totals							Spread per year %							Budget per year (incl ICR)							ICR calculation		
General details			Total	2023-8	2024	2025	2026	2027	2028-7	Total	2023-8	2024	2025	2026	2027	2028-7	Total	Total	ICR %	€ excl ICR						
Total grant			€ 55,000,000	10%	22%	20%	20%	17%	10%	100%	€ 5,470,776	€ 12,158,655	€ 11,271,813	€ 11,143,242	€ 9,202,830	€ 5,752,685	€ 55,000,000	€ 55,000,000	8%	€ 50,925,926						
<b>Split per partner &amp; subpartner</b>			%	%	%	%	%	%	%	%	€	€	€	€	€	€	€	€	€							
Alliance lead PMU			4%	6%	18%	18%	18%	24%	100%	€ 111,706	€ 347,379	€ 347,379	€ 347,379	€ 347,379	€ 478,779	€ 1,980,000	€ 1,980,000		€ 1,833,333							
IFRC Network			37%	4%	21%	20%	21%	19%	15%	100%	€ 826,995	€ 4,170,026	€ 4,145,597	€ 4,302,026	€ 3,909,026	€ 2,946,331	€ 20,300,000	€ 20,300,000		€ 18,796,297						
Climate Centre			4%	5%	20%	20%	19%	16%	100%	€ 128,000	€ 462,000	€ 461,571	€ 450,000	€ 460,000	€ 376,000	€ 2,337,571	€ 2,337,571		€ 2,164,418							
IFRC			9%	3%	24%	21%	22%	16%	14%	100%	€ 133,960	€ 1,178,289	€ 1,046,289	€ 1,106,289	€ 811,289	€ 694,312	€ 4,970,429	€ 4,970,429		€ 4,602,249						
NLRC			24%	4%	19%	20%	21%	20%	14%	100%	€ 565,035	€ 2,529,736	€ 2,637,736	€ 2,745,736	€ 2,637,736	€ 1,876,019	€ 12,992,000	€ 12,992,000		€ 12,029,630						
UNDRR			12%	5%	25%	25%	16%	5%	100%	€ 289,575	€ 1,608,750	€ 1,624,838	€ 1,624,838	€ 997,425	€ 289,575	€ 6,435,000	€ 6,435,000		€ 5,958,333							
WMO			12%	8%	28%	28%	23%	9%	4%	100%	€ 530,000	€ 1,820,000	€ 1,775,000	€ 1,490,000	€ 570,000	€ 250,000	€ 6,435,000	€ 6,435,000		€ 5,958,333						
SOFF			27%	25%	25%	14%	14%	14%	8%	100%	€ 3,712,500	€ 3,712,500	€ 2,079,000	€ 2,079,000	€ 2,079,000	€ 1,188,000	€ 14,850,000	€ 14,850,000		€ 13,750,000						
Contingency and acceleration			9%	0%	10%	26%	26%	12%	100%	€ -	€ 500,000	€ 1,300,000	€ 1,300,000	€ 1,300,000	€ 600,000	€ 5,000,000	€ 5,000,000		€ 4,629,630							
Total			100%							100%	€ 5,470,776	€ 12,158,655	€ 11,271,813	€ 11,143,242	€ 9,202,830	€ 5,752,685	€ 55,000,000	€ 55,000,000		€ 50,925,926						

WATER at the HEART			Totals							Spread per year %*							Budget per year (incl ICR)							ICR calculation		
Split per technical focus area			%	%	%	%	%	%	%	%	%	€	€	€	€	€	€	€ Total	€ excl ICR							
1: Water Related Disaster Risk Knowledge and Governance			16%	5%	22%	25%	16%	6%	100%		€ 400,138	€ 1,886,639	€ 2,182,727	€ 2,182,727	€ 1,405,314	€ 517,575	€ 8,575,119	€ 8,575,119		€ 7,939,925						
2: Observations, Monitoring, Analysis and Forecasting of Water Related Hazards			37%	20%	27%	17%	16%	13%	7%	100%	€ 4,152,500	€ 5,438,500	€ 3,515,000	€ 3,235,000	€ 2,635,000	€ 1,408,000	€ 20,384,000	€ 20,384,000		€ 18,874,074						
3: Water Specific Early Warning Systems, Dissemination and Communications			11%	3%	17%	24%	19%	13%	100%	€ 149,360	€ 998,642	€ 1,371,042	€ 1,453,442	€ 1,121,042	€ 730,791	€ 5,824,319	€ 5,824,319		€ 5,392,888							
4: Anticipatory Action and Locally Led Adaptation			25%	4%	20%	21%	22%	20%	14%	100%	€ 500,034	€ 2,717,252	€ 2,862,852	€ 2,958,452	€ 2,757,852	€ 1,953,060	€ 13,749,503	€ 13,749,503		€ 12,731,022						
5: Crosscutting Activities			12%	4%	17%	21%	20%	20%	18%	100%	€ 268,744	€ 1,117,621	€ 1,340,192	€ 1,313,621	€ 1,283,621	€ 1,143,259	€ 6,467,058	€ 6,467,058		€ 5,988,016						
Total			100%	10%	22%	20%	20%	17%	10%	100%	€ 5,470,776	€ 12,158,655	€ 11,271,813	€ 11,143,242	€ 9,202,830	€ 5,752,685	€ 55,000,000	€ 55,000,000		€ 50,925,926						

Split per implementation country			%	%	%	%	%	%	%	%	€	€	€	€	€	€	€	€	€	
Ethiopia			12%	4%	21%	23%	23%	18%	10%	100%	€ 299,489	€ 1,457,317	€ 1,581,817	€ 1,551,317	€ 1,190,617	€ 707,605	€ 6,788,163	€ 6,788,163		€ 6,285,336
South Sudan			12%	4%	21%	23%	23%	18%	10%	100%	€ 300,164	€ 1,473,517	€ 1,598,017	€ 1,567,517	€ 1,206,817	€ 718,405	€ 6,864,438	€ 6,864,438		€ 6,355,961
Sudan (tbd)			13%	4%	22%	24%	23%	18%	10%	100%	€ 284,076	€ 1,553,955	€ 1,694,542	€ 1,664,042	€ 1,287,255	€ 702,317	€ 7,186,188	€ 7,186,188		€ 6,653,878
Uganda			12%	4%	21%	23%	23%	18%	10%	100%	€ 299,489	€ 1,457,317	€ 1,581,817	€ 1,551,317	€ 1,190,617	€ 707,605	€ 6,788,163	€ 6,788,163		€ 6,285,336
Global/ regions			50%	16%	23%	18%	18%	16%	11%	100%	€ 4,287,558	€ 6,216,547	€ 4,815,618	€ 4,809,047	€ 4,327,522	€ 2,916,754	€ 27,373,047	€ 27,373,047		€ 25,345,414
Total			100%	10%	22%	20%	20%	17%	10%	100%	€ 5,470,776	€ 12,158,655	€ 11,271,813	€ 11,143,242	€ 9,202,830	€ 5,752,685	€ 55,000,000	€ 55,000,000		€ 50,925,926

**Own means & in-kind contribution:** as alliance we believe in this initiative and estimate a total own means & in-kind contribution of €800,000 (2% of the total requested budget excluding SOFF contributions). These contributions are not always separately identifiable as they will also be part of other overlapping programs, coverage of indirect and/ or ineligible cost and staff working hours not allocated to the programme/ projects. They are therefore not considered auditable, but of course do exist.

**Indirect Cost Recovery (ICR):** the current budget includes a fixed 8% ICR. The final indirect cost recovery method and/ or percentage is being discussed between NL MoFa and the alliance lead. This outcome may result in a slight change of budget division.

## Annex 1. Strategic initiatives

Partners bring an existing set of relationships with a series of strategic initiatives. In particular, we will link to the work of:

- [Centre for Excellence for Climate and Disaster Resilience](#): strengthens partnerships and efforts to transform scientific knowledge and tools into action supporting climate change mitigation and adaptation, with concrete benefits for society.
- [EW4All](#) Initiative: identifying opportunities of replication and scalability, including enhanced understanding on the connectivity between all four pillars of EW4All including through an Early Warning value chain, as well as enhancing the partnership approach to be replicated in other contexts.
- IFRC [Global Climate and Resilience Platform](#): with the objective of catalyzing accelerated investment and support for locally-led climate action that reaches the most through the comparative advantage of National Societies as enablers of community-based efforts, including through its more than 160,000 local level branches across the world.
- The [Risk-informed Early Action Partnership](#) (REAP): aligning with the work of REAP in achieving targets around e.g. integrating disaster risk management and climate plans, policies and laws, as well as effective early action planning.
- [The Water Action Agenda](#): this effort will be listed as a commitment to the Water Action Agenda that is the outcome of the UN Water Summit in 2023 to accelerate progress in the second half of the Water Action Decade 2018-2028 and second half of the 2030 Agenda.
- [African Union Climate Change and Resilient Development Strategy and Action Plan](#)
- Africa Road Map
- The Africa Multi-Hazard Early Warning System for Early Action
- The Africa Plan of Action for the implementation of the Sendai Framework



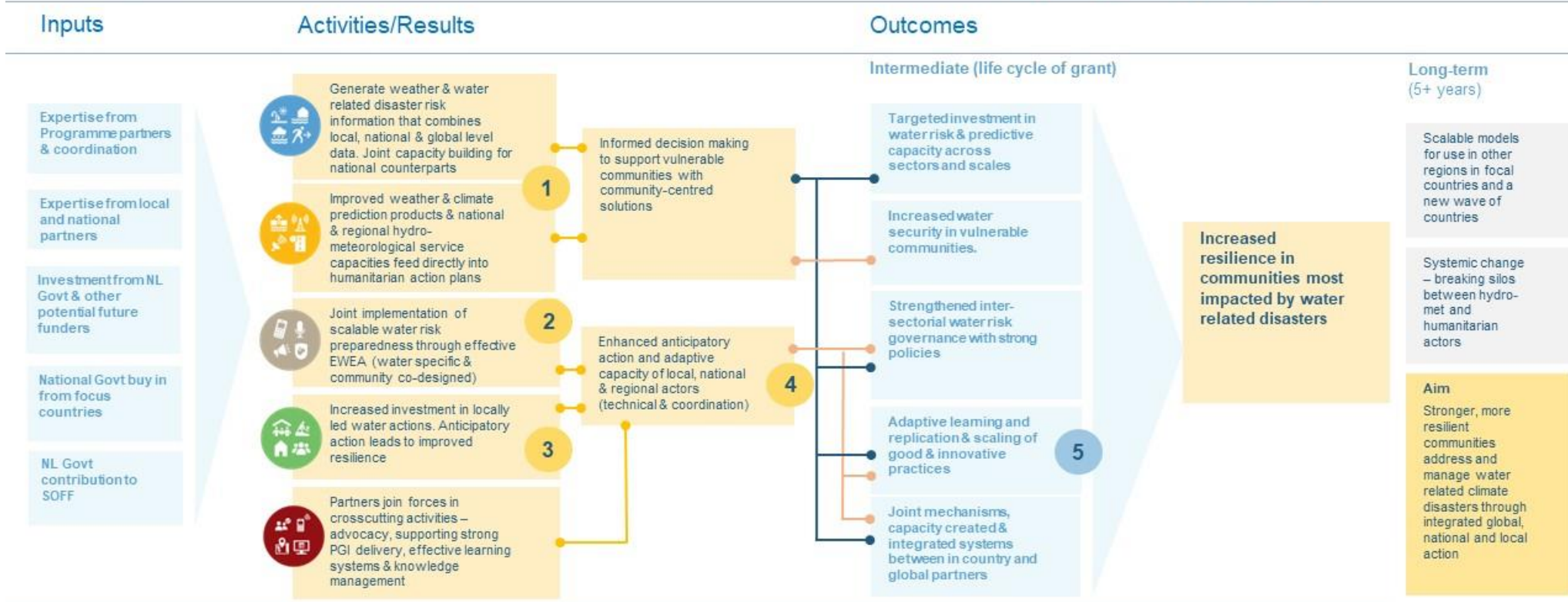
## Annex 2. Theory of Change

### THEORY OF CHANGE

To be refined once focus countries get into detailed planning

Accelerate and scale up water action to reduce impacts and increase resilience of the most vulnerable.

**Integrated, systemic, breaking silos**



#### Key Assumptions

1. Critical data can be sourced swiftly, and relevant actors will be incentivised to engage with the programme (Mitigating action: data audit in early stages of programme and early engagement with key actors we seek to influence on data analysis and risk information.)
2. We can identify and engage with selected communities (identified by the data as those most at risk from current and future water risks). (Mitigating action: Red Cross already present in the area and can socialise the concept at an early stage and advocate for community participation.)
3. We can act and deliver results at speed before future cycles of water related disasters take hold. (Mitigating action: short learning cycles and clear/tested ways of working which can be adopted and adapted in each country.)
4. As capacity improves, particularly at national level, staff are retained and not lost to 'brain drain' (Mitigating action: design incentives for longer term staff retention e.g., 5-year training programmes)
5. We can package our results into 'sellable' products which other investors will be interested in (Mitigating action: use NL gov't relationships and convening power to reach future funders)

# Annex 3. Risk Matrix



## Detailed risk descriptor and mitigating actions.

Risk ID	Title	Impact	Likelihood	Mitigation	Actions (add lead and deadline)
R001	Interventions suffer from political capture (water is a sensitive topic in the Nile basin)	4	2	Accept	Manage clear expectations and safeguards with agencies and communities fully informed/transparent processes. Do no harm approach. Work via embassies and partner with NL MOFA.
R002	High dependence on IFRC network for last/first mile	3	3	Accept	Ensure RC are resourced well for their work and linkages with other partners are explicit and all are accountable
R003	High expectations, relatively low \$ investment	5	3	Reduce	Use investment in a highly selective manner (not business as usual). Learn fast and draw in other funders
R004	High transaction costs of partnership lead to slow delivery	5	3	Reduce	SOPs with clear R&R and performance-based incentives. Strong leadership and governance, strong KPIs
R005	Tasks are outside of Partner mandate	4	3	Accept	Some partners are not set up as delivery agents. Test options early and decide on operational paths early.
R006	Poor data on Loss and Damage	2	4	Accept	Pool existing data and categorise strength of evidence, choose lower risk options
R007	High inflation	4	4	Accept	Add contingency lines in country budgets where budget deviations are expected
R008	Insecurity - difficult access to communities in conflict setting	5	4	Transfer	If access is denied for longer than 3 months, move activities to other areas (TBD); Contracts with suppliers and contractors include force majeure clause; Manage expectations of stakeholders; add contingency line for covering further assessment; Security frameworks in place
R009	Disasters lead to pressure to invest funding in response	4	4	Reduce	Partners use alternative funding channels to support (disaster financing). Funding modalities to allow for flexibility across country budget where needed.
R010	Conditions and reporting requirements of the donor are not in line with the multi-donor trust fund (SOFF) conditions	4	3	Transfer	Clear expectation management and close alignment and agreement is needed between multi-donor trust fund, alliance lead and donor regarding grant conditions.



R011	Legal, financial and administrative burden on lead applicant	3	4	Reduce	Budget for and include a strong programme management unit (PMU) that sets out and communicates clear rules, regulations and guidelines to all partners
R012	EUR-USD conversion (for SOFF)	5	3	Accept	Plan for contingency
R013	Financial audits as required by donor might not be in line with certified annual financial statements as provided from a multi-donor trust fund.	2	5	Reduce	Review and negotiate in inception phase
R014	Administrative barriers hinder sharing of hydro-meteorological, social and topographic data. This result in difficulties to implement technical focal areas 1 and 3.	2	5	Reduce	The executing entities (WMO, SOFF, IFRC) will ensure from the National Focal Points that the required data and information are shared. Furthermore, NMHSs are mandated for exchange of data and information and can request the enforcement of the agreements.
R015	Restructuring of government officials/government structures may cause possible shifts of responsible persons at local and national levels to a different location/agency.	2	5	Accept	Alternative persons from the agencies/departments will be involved in most of the activities so that implementation of project activities will not be hampered at any time.
R016	Human resources/capacity risks. Lack of skills or human resources availability.	2	5	Reduce	The project benefits from the deployment of professionals/staffs at the national, local and regional levels by the executing agencies (WMO/SOFF/UNDRR/RC) who are engaged from the inception.
R017	The gender-mainstreaming approach is challenging for some actors to adopt. Protection and inclusion approach are missing	2	3	Reduce	The project includes gender mainstreaming approach and age and disability sensitive approach in all activities and technical areas Protection component related to risk mitigation and do not harm are also part of this programme A wide range of methods will be adopted to reach and get participation from every groups – especially the most marginalized - of the communities.
R018	Low budget in Yr 1 - limits options to hire national experts	2	5	Reduce	Pre-finance core posts from Yr 2. Discuss flexible budget options with MOFA to enable rapid start up.
R019	Participating in a multi donor trust fund channeled through NLRC is a new modality.	2	3	Transfer	<p>Early conversations with legal teams of NL MoFA, NLRC and SOFF to discuss funding modalities and conditions.</p> <p>The Netherlands, as SOFF funder, either through direct contribution or channeled via NLRC, will have a decision-making role on all SOFF policy and investment decisions, not only in the 4 focus countries but in all countries that receive SOFF support. Essential for four selected countries to apply in the first year for SOFF funding.</p> <p>If NLRC is signing Standard Administrative Arrangement (SAA) regarding financial transfers to SOFF: MOFA to accept that NLRC, for this part of the funds, cannot make guarantees i.r.t. expenditure, implementation, and compliance with donor requirements.</p>



## Annex 4. Partner roles

Network	Partners	Role in partnership
IFRC	<b>International Federation of Red Cross and Red Crescent Societies (IFRC)</b>	Responsible for regional coordination, technical support and capacity strengthening across 4 programme countries on a PGI sensitive and inclusive EWS dissemination and communication; and on anticipatory action and locally led adaptation. Leading on global and regional partnership coordination for IFRC network. Promoting scale-up and replicability of project approach across IFRC network and with partners.
	<b>Netherlands Red Cross (NLRC)</b>	Netherlands Red Cross, a member of IFRC Network, takes a humanitarian angle on disaster management, promoting community resilience and ensuring local action by supporting country partners to design and implement community - and inclusive of marginalized groups -plans. Focus technical areas for international work are Water, Data and Financial Sustainability. Works at national and community level. Bilateral relations with in-country presence include: <ul style="list-style-type: none"> <li>• <a href="#">Ethiopia Red Cross Society</a></li> <li>• South-Sudan Red Cross Red Crescent</li> <li>• Sudan Red Cross Red Crescent</li> <li>• <a href="#">Uganda Red Cross Society</a></li> </ul>
	<b>Red Cross Red Crescent Climate Centre</b>	Works at the intersection of science policy and practice to support National Societies to reduce the impact of climate change on vulnerable communities. Supports advocacy, learning and dissemination taking into consideration gender mainstreaming at all lever and gender equality in policies. Works at global and national level.
UNDRR	<b>UNDRR</b>	Responsible for strengthening risk knowledge at the country level, and producing relevant normative guidance, research and policy support while strengthening multi-stakeholder DRR coordination.
	<b>Centre of Excellence for Climate and Disaster Resilience</b>	Will strengthen partnerships and efforts to transform scientific knowledge and tools into action supporting climate change mitigation and adaptation, with concrete benefits for society.
<b>SOFF</b>		Responsible for implementation of SOFF in Beneficiary Countries, including the 4 focus countries. The implementation of SOFF is carried out by the operational partners, including Beneficiary Countries; Implementing Entities (Major multilateral development partners that play an important role in supporting countries' Hydro-Met development); and Peer Advisors (26 National Meteorological and Hydrological Services).
<b>WMO</b>		Responsible for global, regional and national alignment of weather and climate data, forecasting and linkage to water systems, and effective action and alignment based on Systematic Observations Financing Facility (SOFF) and other data sources to develop hydrological forecasting and EWS to facilitate early action and preparedness.

### Further Background on Systematic Observations Financing Facility

The Systematic Observations Financing Facility (SOFF) is a United Nations Multi-Partner Trust Fund created in 2021 by the World Meteorological Organization, the United Nations Environment Programme and the United Nations Development Programme for the provision of a global public good: closing today's basic weather and climate observations gap for effective resilience actions. Under this partnership, the financial allocation to SOFF is in effect a contribution to the SOFF United Nations Multi-Partner Trust Fund (UNMPTF), further cementing the Dutch UNMPTF leadership role. The Kingdom of the Netherlands has contributed more than USD 1.2 billion to UNMPTF. The SOFF UNMPTF has to date 9 initial funders, including the United States and several European countries. SOFF is the foundational element of the UN EW4All and as part of this initiative has a funding target of USD 400 million.





The SOFF has its own governance structure, and the Steering Committee is its decision-making body. The Advisory Board provides recommendations and advice to the Steering Committee. Under this initiative, the contribution to SOFF will lead to decision-making representation in the SOFF Steering Committee, and the inclusion of the RC Climate Center in the SOFF Advisory Board could be considered in order to improve better institutional cooperation. SOFF is working with and through 8 Implementing Entities (World Bank, regional development banks, UNDP, UNEP, WFP) and 26 met offices from advanced countries that provide technical assistance, including the Royal Netherlands Meteorological Institute.

SOFF implementation is on a global scale, and the contribution of its Funders is not earmarked to specific countries. The four focus countries of this initiative are SOFF beneficiary countries. They all will benefit from SOFF support. The contribution from this initiative to SOFF will have an impact beyond the focus countries and will improve weather and climate products on a global scale. In turn, closing the GBON data gaps in other countries will also create additional benefits to the four focus countries, in terms of better forecast products and increased availability of data from across the globe.

The SOFF UNMPTF provides the annual financial report to the SOFF Steering Committee and the SOFF funders. The SOFF Secretariat provides an annual report to the Steering Committee as well as a progress report at every meeting.

