

SIMPLIFIED EARLY ACTION PROTOCOL

Burundi | Extreme floods



Burundi RC reaching out to assist people affected by floods. ©Croix Rouge de Burundi

sEAP No: SEAP2023BU01	Operation No: MDRBI021	Total Budget CHF 175,382		Readiness: CHF 75,721
				Prepositioning: CHF 33,423
				Early Action: CHF 66,238
People targeted: 9,000 People	sEAP approved: DD/MM/YYYY	sEAP timeframe: 2 years	sEAP lead time: 7 days	Operational timeframe: 3 months
Prioritized geographical areas: <i>This EAP will be operational nationwide, with a focus on the communes of Ntangwa, Mukaza, Muha, Muhuta, Rumonge and Bukemba are the areas most exposed to flooding.</i>				

RISK ANALYSIS AND EARLY ACTION SELECTION

Prioritized hazard and its historical impact.

In Burundi, a country of small rivers and steep (and deforested) watersheds, extreme rainfall often causes riverine flooding with significant impact. These floods constitute a major shock according to the Burundian government's prioritization of potential major risks and the severity criterion (combining probability of occurrence and negative impact). Since 1980, the EM-DAT directory lists more than 28 floods that have caused considerable damage in several of the country's rivers and river basins. For example, the night of 9 January 2014 was a fateful one for the inhabitants of northern Bujumbura. The so-called Gatunguru floods left more than 70 people dead, 182 injured and four missing. 1,100 houses were destroyed, while 900 were partially destroyed. The uwinterekwa floods in the commune of Ntahangwa on 21 December 2019 resulted in 14 deaths and 450 affected households. A site was set up for the displaced and an appropriate response was provided. The flooding was caused by heavy rains and a detour of the Cari River, which ravaged everything in its path.

- Heavy rainfall in the Imbo and Mumirwa regions on 29 March 2015 caused flooding and landslides and **around 20 deaths were recorded in Bujumbura Rurale.**
- On April 19 and May 1, **2020**, the province of Bujumbura Rural, Mutimbuzi commune, Gatumba zone was hit by heavy **flooding** that affected more than 45,000 people including 17,792 displaced.
- During the months of April and May **2021**, the rising waters of Lake Tanganyika affected the provinces of Bujumbura Rural, Rumonge, Bujumbura Mairie and Makamba, resulting in 52,182 people affected in 10,076 households, including 22,580 displaced persons (4,170 households).

More than 10,000 people have been displaced by devastating floods following the heavy rains that have hit Burundi in recent years. In the rural area of Gatumba, in the province of Bujumbura, residents have been forced to seek refuge in schools, churches or sometimes in makeshift shelters set up by the roadside. As well as losing their homes, many have lost their livelihoods as the floods have destroyed crops and damaged businesses. This follows the displacement of 1,000 households in the same area in April 2023, according to IOM's Displacement Tracking Matrix (DTM).

Due to its quasi-tropical climate, Burundi is at enormous risk of flooding all year round, but flooding is particularly concentrated during the two rainy seasons (September to November and February to June). It should be noted that an increase in the risk of extreme rainfall caused by climate change could change this picture and cause the risk of flooding to be considered widespread. It could also have a greater impact if they affect communities with little experience of this kind of disaster.

Riverine and urban flooding, the most common type of flooding in Burundi, is characterized by the overflowing of riverbeds due to heavy (and sometimes long-lasting) rainfall in the various catchment areas. This type of flooding affects the communities that live or carry out their economic and subsistence activities on the banks of these rivers. These floods cause enormous human and material damage. In particular, the Burundi Red Cross has listed the primary impacts as deaths and injuries, the destruction of private and public infrastructures, and the overflowing of latrines. Agricultural and forage fields are often flooded, resulting in crop and livestock losses, and households are often displaced in the short and medium (and sometimes long) term. Secondary impacts cascade down, the most important of which are food insecurity, the outbreak of water-borne diseases, and a host of socio-economic and psychosocial impacts.

These situations impose a clear need for assistance, which can be summed up mainly in the following actions, by the various agencies and organizations (including the Burundi RC (CRB)) involved in disaster management. National and provincial platforms play an important role in coordinating emergency response. Generally, the CRB is

responsible for first aid and care, conditional and unconditional cash transfers, setting up evacuation sites and temporary shelters, building houses, supplying drinking water, providing food, medicines, and fuel, and distributing seeds for the following season. For disaster affected people, a range of protection and psychosocial support activities are also offered, tailored to the needs of specific groups.

It should be noted that the period from March to May is an important rainy season in Burundi, with rainfall across the country accounting for up to 60% of total annual precipitation. For the year 2024, the forecasts provided by ICPAC in February are expected to be higher than the climatological normal for Burundi, with probabilities in the order of 55 to 65%, especially in the western part of the country, corresponding to the target region. These forecasts call for urgent action and coordinated preparation, to put in place proactive measures to mitigate the potential impacts and likelihood of flooding during the March to May 2024 (MAM 2024) season in the target region could therefore lead to a deterioration in the socio-economic life of the population.

We must also consider the rising waters of Lake Tanganyika, which is fed by numerous tributaries, the most important of which are the Rusizi and Malagarazi rivers, which have risen significantly (see graph 2). The expected rainfall will also contribute to the rise, especially towards April, when the maximum rainfall is expected (fig.1).

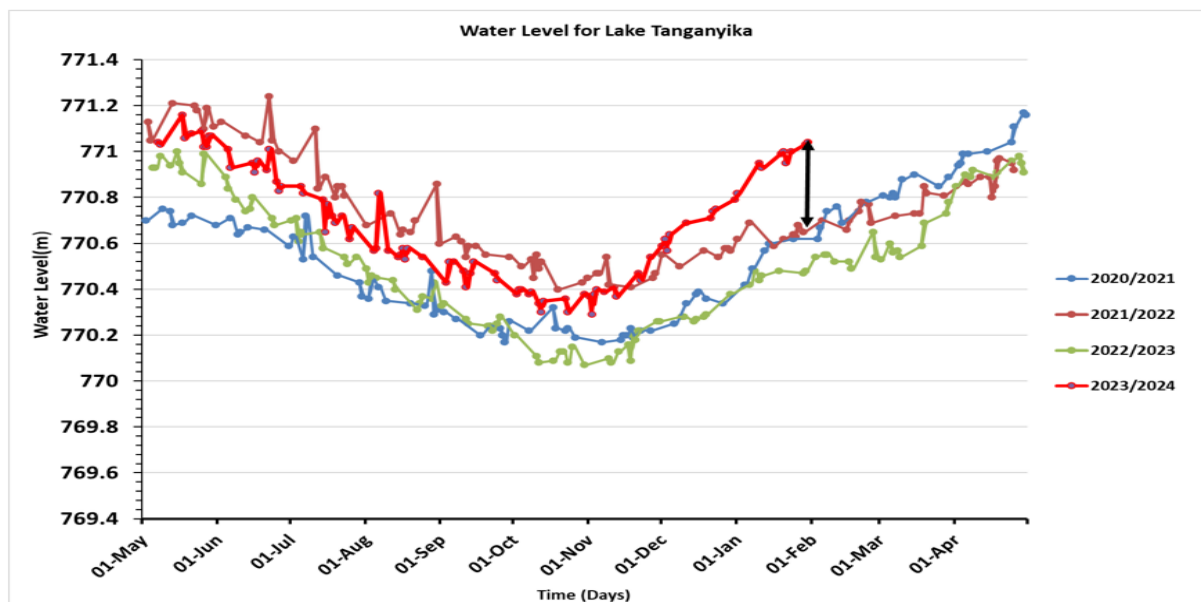


Figure 1: Water level for Lake Tanganyika (Source: ACMAD - Data estimation Sat. Centinel2)

In addition to historically observed cyclical rise in water levels, the rise in water levels is due to multiple rivers flowing into Tanganyika, and localities will be affected according to their elevation levels - see the map of elevation classes from the normal level of Lake Tanganyika below.

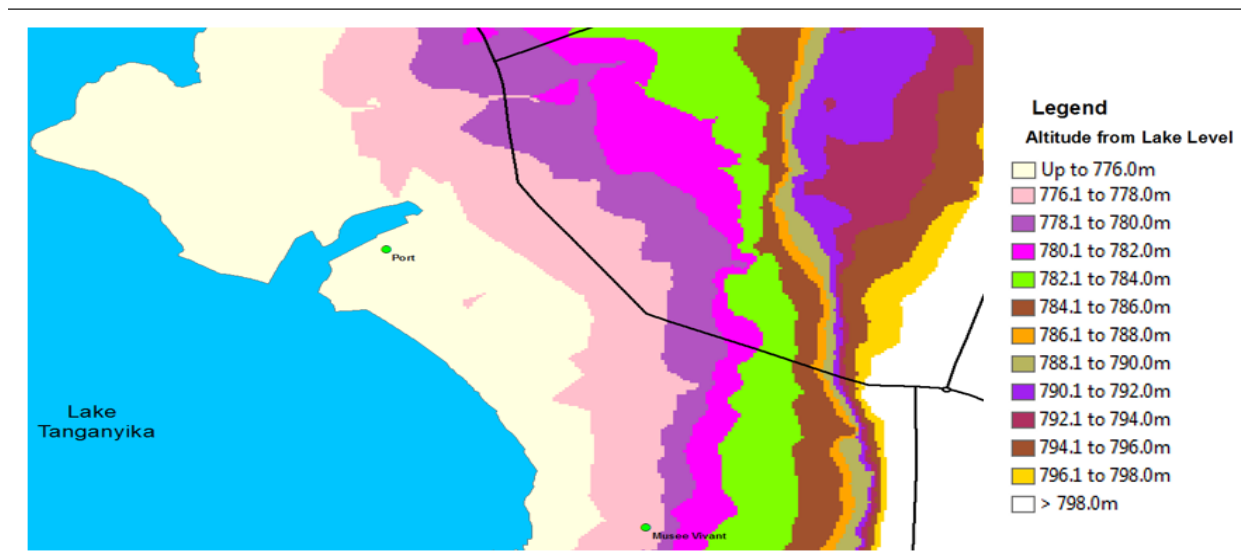


Figure 2: Map of land reached by Lake Tanganyika at different altitude level (Source: ACMAD)

According to the analysis of the figure above, the historical threshold of the lake level each time it has overflowed is around 771.2m. This level is a first level of danger in the event of extreme rainfall, as it is sufficient to cause an overflow and soon inflict severe damage to the people and their livelihoods in the minor lakebed. Special monitoring system will be built on this during the peak period (April), to better monitor with meteorologists, extreme rainfall forecasts and the level of Lake Tanganyika.

Explain which risks have been selected for this protocol and why

Risk is defined as a combination of hazard, exposure, vulnerability, and the ability of the exposed community to cope with the shock. The National Disaster Risk Reduction Strategy 2017-2021 shows that a large part of the country is exposed to heavy and very heavy flooding, particularly along Lake Tanganyika and in the north-central part of the country. In particular, the Imbo Plain is at high risk of flooding from rivers flowing from the Congo Nile Ridge, while the Plateaux Humides, Plateaux Secs de l'Est, in the north and east are at medium risk of flooding, and the Congo Nile Ridge, High Altitude and Buragane are at low risk. Referring to the historical profile, the communes with high exposure to flooding are Ntahangwa, Mukaza and Muha in Bujumbura Marie, Muhuta in Bujumbura rural, Rumonge in Rumonge province and Bukemba in Rutana province (figure 3). These highly exposed communes are vulnerable in a variety of ways, with immediate damage in human, material, and financial terms. As far as the human dimension is concerned, the consequences for health are obvious. Indeed, apart from the direct management of emergencies linked to the management of mortal remains, first aid, evacuations and various distributions, epidemics follow, the management of which further complicates interventions and affects the response capacities of the Burundi Red Cross. Here, the Red Cross must always initiate preparedness and response actions. All exposed communities are vulnerable to extreme rainfall, and steps must be taken to ensure that communities are better prepared to react, anticipate, and respond when danger arises.



Figure 3 - Mapping of prioritized risk areas (source: map created by WFP, based on multi-hazard mapping, IOM and Government of Burundi).

According to the analysis of five years' historical data (2018-2023) in Table 1, Bubanza and Bujumbura are the areas where extreme torrential rains are heaviest, and these events have most often caused human and material damage.

As a result, the priority impact whose effects must be countered is destruction of housing land, agricultural fields and diseases transmitted by water and by vectors.

Describe the selected early actions and explain how they will address the risks and lead to the intended outcome

CRBI's proposed actions would include: the development early warning system, early cash distribution for the purposes of protecting agricultural yields and protecting shelters, wash kits distribution and awareness raising for better integration of early actions into the daily lives of vulnerable populations.

It should be noted that extreme rainfall also has significant medium- and long-term impacts, including food and economic insecurity caused by the loss of livelihoods due to crop and livestock losses, as well as the death of members of households' economic backbone.

Locations	Number of torrential rains and floods	Affected persons	Destroyed fields	Destroyed shelters
Bubanza	131	12,554	30	2,474
Bujumbura Town Hall	84	40,797	20	9,166
Bujumbura Rural	88	114,415	205	22,422
Bururi	15	5,997	1	65
Cankuzo	40	7,603	4	838
Cibitoke	58	11,398	667	1,954
Gitega	13	3,124	7	272
Karuzi	13	1,225	-	229

Kayanza	43	30,179	1,839	223
Kirundo	42	51,713	14	443
Makamba	35	5,520	2	832
Muramvya	3	131	1	9
Muyinga	69	9,755	14	1,264
Mwaro	12	1,720	-	15
Ngozi	73	32,450	35	343
Rumonge	78	13,243	1	1,968
Rutana	41	18,264		579
Ruyigi	40	17,380	8	947
Grand Total	878	377,468	2,848	44,043

Table 1 - Number of rain-related incidents, people affected, fields and shelters destroyed between 2018 - 2023 (Source: OCHA Burundi).

Regarding the destruction of crop and fields and loss of livestock, communities with agricultural land and commercial activities near or along flood prone areas generally see their farms and business premises flooded, resulting in the loss of their daily means of subsistence. These populations are 90% agricultural, which suggests that the occurrence of floods in these localities has an impact on production factors and consequently on food insecurity.

Livestock farming is also affected, with lack of fodder, epizootic diseases and even loss of animal life the main causes. Another collateral effect is the sale of surviving animals at low prices to meet the most urgent post-disaster needs, hence the need for cash support. It will enable families at risk to move their productive assets to safe havens, avoiding loss of life and livelihoods. By avoiding these losses, the targeted populations will be able to rapidly re-establish or diversify their livelihood activities. An amount of BIF 180,000 will be given to each vulnerable household targeted as being exposed to flooding (living within 200m of the lake or 100 meters of the river).

Furthermore, the destruction of shelter caused by extreme rainfall is an indicator not only of the vulnerability of buildings, but also of the materials used to construct them (e.g. earth, brick, sheet metal roofs etc.). When family homes collapse due to flooding, there is a high probability that the inhabitants will end up injured or, in the worst case, killed by the rubble. To this end, the CRB Green Line has a free 24-hour emergency number with staff equipped in different areas of expertise to offer support to callers. This can be used to mainstream access to weather and flood risk management information, as well as in gathering feedback from communities.

Finally, as elsewhere, flooding brings with it the risk of water-borne and vector-borne diseases and increased morbidity, as it compromises access and water quality for affected populations. As is often the case during floods, access is affected when water infrastructure is damaged or mud levels at water sources rise, limiting supply. Hygiene and sanitation are further effects of a limited water supply or compromised water quality. Flooding causes high levels of contamination of water bodies and destruction of sanitation facilities, leading to an increase in diseases such as acute watery diarrhoea and cholera, as well as vector-borne diseases such as malaria. To avoid these problems, the national company will first train volunteers in water, hygiene and sanitation awareness techniques in the event of an emergency and will pre-position a stock of chemicals (chlorine) for water treatment and site disinfection.

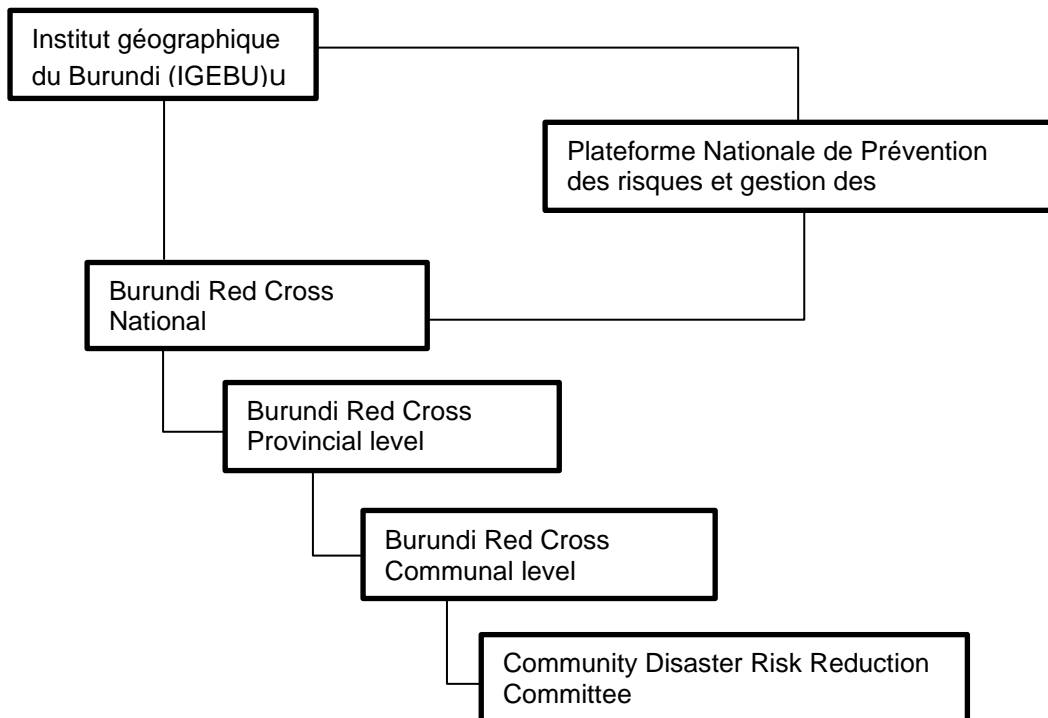



Figure 4 - Communication chain for EAP triggering.


EARLY ACTION INTERVENTION


Overall objective of the intervention	Reduce the impact of floods on households in communities living in flood-prone areas and help prevent loss of life, livestock and destruction of cultivated fields through pre-positioning, preparation and activation of early actions.
Potential geographical high-risk areas that the simplified EAP would target	The communes of Ntahangwa, Mukaza, Muha, Muhuta, Rumonge and Bukemba were selected based on the frequency of flooding and the proximity of Lake Tanganyika, as well as the presence of water streams that cross these areas
Who will be assisted through this operation and what criteria will be used for their selection?	Households eligible for assistance are those living between 0 and 200m from the edge of a lake and 0 to 100m from the edge of a river. In addition, other vulnerability criteria will be considered for greater objectivity, including: <ul style="list-style-type: none"> - <i>Single parent families;</i> - <i>Family with a member suffering from a physical, mental or cognitive disability;</i> - <i>Household at risk of collapse due to flooding;</i> - <i>Households headed by women or unaccompanied children, households with people with special needs (disabilities, chronic illnesses, etc.), and households with elderly people.</i>
	Households for cash transfers are selected as follows: <ul style="list-style-type: none"> - A map of geographical zones is drawn up. - From this zone, volunteers from the CRB branch collect data on a tablet (with pre-created questions) from all households in the zone, detailing the above selection criteria. - The 750 potential beneficiaries are then selected based on vulnerability ranking.


Trigger(s) statement	<p>The early actions of this early action protocol will be triggered when:</p> <ol style="list-style-type: none"> 1. ICPAC forecasts indicate that the 99th percentile of daily precipitation totals will be exceeded with a probability of 60% or more seven days before impact. <p>OR</p> <ol style="list-style-type: none"> 2. When, concomitantly, IGEBU forecasts indicate that the historical threshold of 25 mm in 24 hours will be exceeded and ICPAC forecasts indicate that the 99th percentile of daily precipitation totals will be exceeded with a probability of 60% or more within the next three days.
Trigger threshold justification	<p>Trigger levels were determined based on an analysis of daily rainfall data in Burundi. This analysis made it possible to determine the return periods (two years and five years) that correspond to the IFRC recommendations. The trip points were chosen to be as close as possible to these return periods.</p> <p>As for the choice of forecasting sources, priority was given to national and regional (rather than international) services, notably to ensure the program's sustainability and its contribution to a wider discussion on anticipatory action in Burundi.</p> <p>In the short/medium term, forecasts will be monitored by CRB staff who have been trained in advance and have a monitoring tool specifically created for this program. They will be supported by the IGEBU and the Red Cross Red Crescent Climate Centre. At a review of this program, it is hoped that the IGEBU will be able to carry out this monitoring on behalf of the CRB and will be notified when thresholds are reached by means of an early warning bulletin that everyone can understand.</p>
Next steps – For National Societies that intend to develop a full EAP (Optional)	<p>This simplified EAP is part of the second phase of a long-term project on forecast-based financing in Burundi, which is part of pillar 2 of the NS strategic plan. This will enable lessons to be learned and shortcomings to be corrected in order to move towards a five-year EAP.</p>

PLANNED OPERATIONS


	Multi-purpose Cash	Budget	CHF 57,730	
		No. people targeted	4,500	
Indicator:	Number of people reached with multi-purpose cash in advance of a hazard	Target:	900 HH	
Readiness activities:	<ol style="list-style-type: none"> 1. Cash training for volunteers 2. raising public awareness of early action, including cash transfers 			
Prepositioning activities:	1. N/A			
Prioritized Early Actions:	<ol style="list-style-type: none"> 1. Household identification 2. Cash distribution 			


	Water, Sanitation and Hygiene	Budget	CHF 29,034	
		No. people targeted	6,750	
Indicator:	Number of people reached with WASH interventions in advance of a hazard	Target:	6,750 people	
Readiness activities:		<ol style="list-style-type: none"> 1. Training of 30 volunteers in the PHAST (Participatory Hygiene and Sanitation Transformation) awareness-raising technique 2. Raising household sanitation awareness 3. Development of IEC materials for hygiene promotion 		
Pre-positioning activities:		<ol style="list-style-type: none"> 1. Purchase and pre-positioning of chlorine for water treatment and disinfection for 1,500HH (Aquatabs + Chlore). 2. Purchase and pre-positioning of soaps and water storage materials for 750 households. 		
Prioritized Early Actions:		<ol style="list-style-type: none"> 1. Awareness campaign on flood risks, good practices in water management and use, hygiene and sanitation. 2. Distribution of water treatment products and water storage equipment 		

	Risk Reduction, climate adaptation and Recovery	Budget	CHF 25,320	
		No. people targeted	9,000	
Indicator:	Number of people reached with risk reduction interventions in advance of the flood	Target:	9,000	
Readiness activities:		<ol style="list-style-type: none"> 1. Workshop with other stakeholders to design early warning messages, including translation into the local language. 2. Two early action simulation exercises with the community 3. Training of 60 volunteers in techniques for raising awareness in at-risk communities about how to behave before, during and after a disaster. 4. Raise awareness among communities at risk about mitigation measures and how to behave before, during and after a disaster. 5. Production and printing of early warning dissemination materials 		
Prepositioning activities:		N/A		
Prioritized Early Actions:		<ol style="list-style-type: none"> 1. Deployment of volunteers in targeted areas to raise flood awareness, involve communities and take early action. 2. Brief provincial and communal response teams to support early action and prepare for rapid intervention 		

	Community Engagement and Accountability	Budget	CHF 3,950	
		People targeted	9,000	
Indicator:	Number of people reached with community engagement and accountability interventions in advance of a hazard	Target:	9,000 people including 60 volunteers	
Readiness activities:	<ol style="list-style-type: none"> 1. Annual training for volunteers on CEA in emergency situations. 2. Briefing of hotline staff (hotline :109) on early warning and early action 3. Support for maintaining the Burundi Red Cross green line. 			
Prepositioning activities:	<ol style="list-style-type: none"> 1. Providing CEA committees with tools for collecting and managing complaints (suggestion boxes, complaint collection forms, etc.) 			
Prioritized Early Actions:	<ol style="list-style-type: none"> 1. Make communities at risk aware of the existence and use of a green line 109 			

ENABLING APPROACHES

	Secretariat services	Budget	CHF 16,543	
		No. People targeted		
Indicator:		Target:		
Readiness activities:	Deployment of IFRC early warning and early action training facilitators			
Prepositioning activities:	<ol style="list-style-type: none"> 1. N/A 			
Prioritized Early Actions:	<ol style="list-style-type: none"> 1. Support coordination with stakeholders and authorities. 2. Support for operations management and report writing. 			

	National Society Strengthening	Budget	CHF 42,805	
		People targeted		
Indicator:		Target:		
Readiness activities:	<ol style="list-style-type: none"> 1. Mobilization of a Burundi Red Cross staff member to monitor activities for 24 months. 2. Organize meetings with all stakeholders to monitor progress. 			
Prepositioning activities:	<ol style="list-style-type: none"> 1. Purchase of visibility material for volunteers 			

Prioritized Early Actions:	<ol style="list-style-type: none"> 1. Support for assessments of the organizational capacities and capabilities of structures in the area to intervention 2. Support for capacity-building in anticipatory action and sustainability. 3. Lesson learn workshop
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CONDITIONS TO DELIVER THE EARLY ACTION

<p>Experience and/or capacity to implement the early actions.</p>	<p>The Burundi National Red Cross Society is always at the forefront of disaster preparedness and response. The community, public authorities and community players call on volunteers in localities affected by various crises, and they respond in real time. The Burundi Red Cross is, by virtue of the principle of auxiliary, the respondent to the Government of Burundi in the reduction and management of crises and disasters.</p> <p>As part of our preparedness, we have anticipatory and response plans at various levels for different types of crises and disaster, and simulation exercises are regularly carried out to ensure that we are always ready to respond in the event of a disaster. Disaster preparedness and response is and remains a priority for the Burundi Red Cross, and it is constantly refining its intervention methods.</p> <p>It should be noted that Burundi does not currently have an operational early warning system, but efforts are underway to make progress on this front, supported by the National Platform and the Burundi Red Cross. This EAP has been one of the tools used to advance these discussions.</p>
<p>Red Cross Red Crescent Movement partners, Governmental / other agencies consulted/involved on this simplified EAP</p>	<p>The Government of Burundi through the National Platform for Risk Prevention and Disaster Management and its statutory partner ministries.</p> <p>The National Platform (PNPRGC) is the structure mandated to pool the information and data held by the various ministerial departments, and to coordinate the initiatives taken in the different fields to guarantee interdisciplinary, inclusive, and anticipatory risk management (including emergency response). The CRB is a member of the National Platform (PNPRGC).</p> <p>World Food Program (WFP)</p> <p>As a strategic partner of the CRB, WFP actively supports the initiation of the FbF approach in Burundi, as demonstrated by the cooperation agreement between WFP and the CRB. This agreement, now in its second phase, mainly aims to strengthen the BRC's capacities in terms of early warning, anticipatory action, cash distribution and emergency preparedness. WFP is also helping the authorities to improve the national early warning system. This sEAP is also being developed within the framework of cooperation with WFP.</p> <p>Burundi Geographic Institute (IGEBU)</p> <p>IGEBU provides monitoring and weather forecasts. For this sEAP, the deterministic 7,4,3,2,1-day forecasts and flood depth map provided by IGEBU will be used. The CRB and IGEBU have signed a memorandum of understanding to exchange knowledge and data on weather forecasting.</p> <p>Red Cross Red Crescent Climate Centre</p> <p>The Climate Centre supports the CRB and other Movement and non-Movement partners in anticipating changes in climate-related risks and provides technical</p>

support to the FbF project by analyzing climate data to improve early action triggers. The Climate Centre has fully contributed to the development of the flood trigger and will be consulted for its evaluation when trigger conditions are reached.

IGAD Climate Prediction and Application Centre (ICPAC)

ICPAC is a member of Anticipation Hub and is at the forefront of anticipatory action in East Africa. Acting as WMO's regional climate center for the Greater Horn of Africa region, it is one of Africa's leading forecasting centers. It has a dedicated web page where drought and exceptional rainfall forecasts are freely accessible.

Steering Committee

The steering committee for the project covering this sEAP is made up of two members of the National Platform, two members of the IGEBU, one member of OCHA, three members of the CRB, and two members of the WFP.

BUDGET



Early Action Protocol Summary

**PAP2023BI01- Burundi Red Cross
Floods caused by extreme precipitation**

<u>Operating Budget</u>	Readiness	Pre-Pos	Stoc	Early Action	TOTAL
Planned Operations	27,515	24,645		63,875	116,035
Shelter and Basic Household Items	0	0		0	0
Livelihoods	0	0		0	0
Multi-purpose Cash	0	0		57,730	57,730
Health	0	0		0	0
Water, Sanitation & Hygiene	5,672	21,944		1,418	29,034
Protection, Gender and Inclusion	0	0		0	0
Education	0	0		0	0
Migration	0	0		0	0
Risk Red., Climate Adapt. and Recovery	18,906	2,026		4,389	25,320
Community Engagement and Accountab	2,937	675		338	3,950
Environmental Sustainability	0	0		0	0
Enabling Approaches	48,207	8,778		2,363	59,348
Coordination and Partnerships	0	0		0	0
Secretariat Services	14,179	0		2,363	16,543
National Society Strengthening	34,027	8,778		0	42,805
TOTAL BUDGET	75,721	33,423		66,238	175,382

all amounts in Swiss Francs (CHF)

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