

Zambia Floods

Early Action Protocol Activation

Case Study

January 2023



ACKNOWLEDGEMENTS

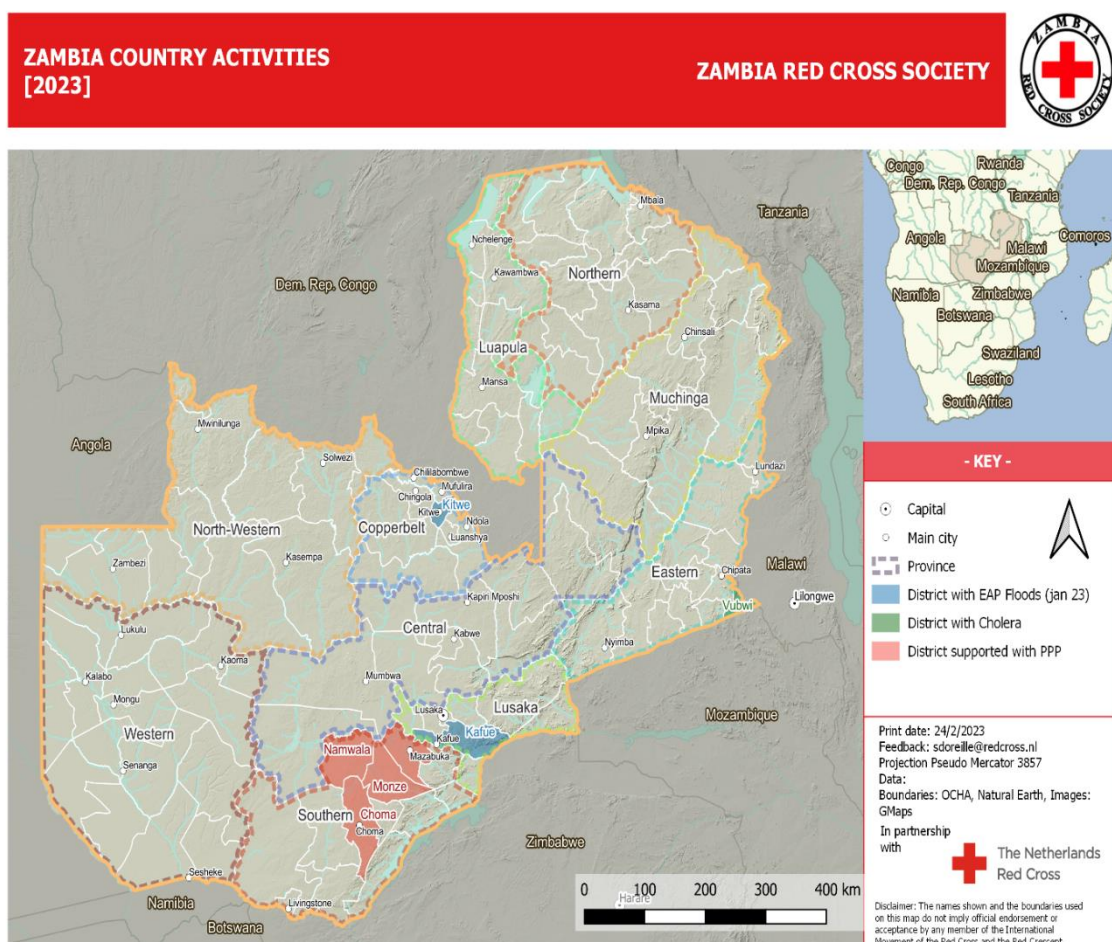
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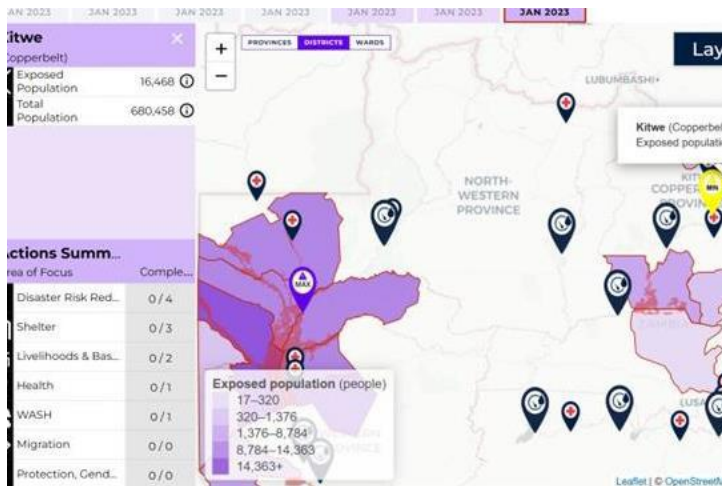
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Background



The Impact Based Portal developed by NLRC 510, enabling ZRCS to monitor the EAP trigger threshold for Floods

Zambia is highly susceptible to climate impacts, as evidenced by natural events such as floods, prolonged dry spells/droughts, and pest infestations. Additionally, anthropogenic hazards, including population movement, human and livestock health issues, and disease outbreaks, further exacerbate food insecurity concerns. There has been a steady increase in both frequency and intensity of risks over the years mainly attributed to climate variability. From these risks, floods pose the biggest threat to people's livelihoods being the hazard that affects most communities in Zambia.

This led Zambia Red Cross Society (ZRCS) to develop an Early Action Protocol (EAP) for riverine Floods, with the support of Netherlands Red Cross. The EAP was approved in October 2020 by

the Anticipatory Pillar of the IFRC's Disaster Response Emergency Fund (DREF) which supported the implementation and the activation of the protocol.

The EAP focuses on riverine floods, using a GloFAS forecast which monitors water discharge in various stations. The early actions trigger is based on a threshold corresponding to 10 years return period flood in one or more GloFAS stations. The EAP gives ZRCS a 7-day lead time to implement early action activities that aim to mitigate the risks on communities most at risk. The anticipated risks include displacement of people due to the destruction of houses; water borne disease outbreaks such as cholera due to contamination of water points, as well as increased malaria incidences due to increased exposure to mosquitos, crop losses and damage due to flooding. In line with these risks, the EAP proposed early actions for shelter, Water, Sanitation and Hygiene (WASH)/health, and food security as priority sectors.

On 22 January 2023, the Impact Based Forecasting (IBF) Portal that connects GloFAS, to water gauge stations managed by WARMA, sent a warning to the Zambian Red Cross Society (ZRCS) showing that the trigger threshold was reached, which indicated the high likelihood of flooding in ten districts across the country. According to the portal, Kitwe District (reached on 22 January) and Kafue District (reached on 26 January) were anticipated to be at greater risk, impacting 12,232 people (2,039 Households) and 16,468 people (2,745 Households) respectively, with flooding anticipated to peak on 28 January 2023. As soon as the alert was received, the Forecast based Financing (FbF) Technical Working Group on Anticipatory Actions in Zambia held a meeting to evaluate the situation and agreed to activate the EAP. The National Society mobilized its resources and conducted early actions in Kitwe and Kafue.

Mid-2023, the Netherlands Red Cross commissioned a study to learn from this EAP activation followed by an emergency response operation thanks to the support from the Dutch Ministry of Foreign Affairs.

The purpose of this review is threefold:

- 1) Understand the extent to which the anticipatory actions for floods implemented in 2023 in Zambia were relevant to the communities and efficiently implemented.
- 2) Learn how the transition from anticipatory action to emergency response went and what we can take away from this.
- 3) Understand to what extent did the implementation of the two approaches of anticipatory action and PER (Preparedness for Effectiveness Response) work in synergy in getting the ZRCS ready to respond to the situation.

The evaluation team conducted a desk review and applied participatory methods in both the districts and communities visited¹. Two researchers from the consultancy company Justice and Development Pathways (JDP) (team leader and note-takers) were supported by two ZRCS headquarters staff, district, and satellite staff over the period from 8th to 31st September 2023 in Kitwe and Kafue districts. The learning session was held in November 2023 in Monze district, during the movement partners workshop carried out to developing the EAP for drought. JDP and the IFRC Secretariat² (Climate and DREF teams) contributed to the writing of this report.

- The ZRCS organized **Focus Group Discussions (FGD)** with 5 to 12 participants per session from neighborhood Health Committees (NHC)/ Satellite Disaster Management Committees (SDMCs), District Disaster Management Committees (DDMCs), ZRCS volunteers, as well as youths, women, men, and elderly groups from communities. A total of 10 Focus Group Discussions were held, five in Kitwe and five in Kafue districts. The Focus Groups discussed about key events and actions before, during and after the January floods. This enabled the researchers to get a general overview and identify issues to explore more in detail through the Key Informant Interviews and transect walks. Each meeting lasted about 1hr 30 minutes and took place between 8th and 20th September 2023.
- The researchers from JDP conducted semi-structured **Key Informant Interviews (KIIs)** with individuals and a group of 2 to 5 persons, identified through the FGDs as key informants, between 8th September and 20th October 2023. These community leaders interviewed headed and or were members of the DDMC/SDMC/NHC, Rural Health Centre and Agriculture Camps, and played special roles during the floods. Additional KII were held with members of IFRC and NLRC, National relevant staff from ZRCS, Zambia Meteorological Department (ZMD), and the Water Resources Management Authority (WARMA).
- **Transect walks** to high-risk places and the four most vulnerable households affected by the flooding were the third phase of data collection of the project. This method allowed the researchers from JDP to access vulnerable community members informally and discussed issues in depth.
- The researchers from JDP conducted a one-day **Learning Session** with the ZRCS, partners and stakeholders to synthesize the lessons learned from the implementation of the EAP and contribute to new knowledge that would inform future programming.



¹ The following communities were visited: Chikupi, Kambale, and Chiyawa communities in Kafue district, and Musonda, Luangwa, and Chipata communities in Kitwe district. The following persons/stakeholders were interviewed: ZRCS Monitoring and Evaluation staff, Disaster Management staff, Procurement staff, Programs staff, IFRC staff, ZMD staff, WARMA staff, ZRCS volunteers in respective communities, DDMC focal points, SDMC focal points, members of the Ministry of Agriculture and Ministry of Health, District Administration, representatives from the National Agricultural Information Services (NAIS), and members from the Disaster Management and Mitigation Unit (DMMU).

² Climate and Resilience Team, and DREF team

Key findings

1) Were the anticipatory actions for floods implemented in 2023 in Zambia relevant to the communities and efficiently implemented?

Timeline of actions undertaken before and during the floods in Kitwe and Kafue

| Dates | Events | Early Actions implemented |
|---------------------------------|---|--|
| January 22 (Day 1) | The Impact Based Forecasting (IbF) platform issued a warning indicating the EAP trigger is reached for Kitwe district. | <ul style="list-style-type: none"> The alert was shared with WARMA and ZMD for verification. WARMA released official statement to the ZRCS and DDMU to activate early actions and structures. Meeting with the FbF Technical Working Group on Anticipatory Actions, meeting with Movement partners to evaluate the situation and agreed to activate the EAP. DMMU activated the district DRM structures. IFRC advised the ZRCS to work on the notification for the EAP Activation. Finance Manager applied for funds from IFRC. |
| January 23 - 26 (Day 2 to 5) | Jan 26 - The Impact Based Forecasting (IbF) platform issued a warning indicating the EAP trigger is reached for Kafue district. | <ul style="list-style-type: none"> The district administration was informed of the impending flood and the early action/anticipatory activities that the ZRCS was to undertake in the districts in coordination with other stakeholders. The EAP notification is timely approved, and funds are transferred from IFRC to NS for early action implementation. Coordination meetings with stakeholders ZRCS met key stakeholders at the District Disaster Management Committee DDMC including the Disaster Management and Mitigation Unit (DMMU), the Department of Social Welfare, and the Ministry of Health. Rapid mobilization of ZRCS teams to the targeted Districts of Kafue and Kitwe to start implementing early actions Coordination meetings with stakeholders |
| January 27 (Day 6) | Heavy Rains in Kitwe and water levels on the Kafue Riverine still high. | <ul style="list-style-type: none"> Guidance was provided by the government through District Disaster Management Committees (DDMCs) that the ZRCS should work with existing structures under Ministry of Health called Neighbourhood Health Committees (NHCs). ZRCS deployed teams in the two districts to carried out the following activities: <ul style="list-style-type: none"> Training of ZRCS volunteers. Identification of safe havens in communities for the anticipated affected population in nearby schools. Quick assessment of the safe havens – relocation sites and improve the sanitation facilities in the evacuation sites. Beneficiary pre-selection/identification of the most vulnerable households in the flood prone communities for the distribution of WASH items and NFIs. Development of health messages. Messaging included proper use of mosquito nets, malaria prevention measures, cholera and bilharzia prevention and management, among other public health related issues. |

| | | |
|----------------------|--|---|
| | | <ul style="list-style-type: none"> ○ Provide health messages using the PA system. ○ Development and dissemination of information, and proper hygiene and early warning messages. ○ Verification of the status of water points and sanitation facilities in all the evacuation centres. ○ Community sensitization on early crop harvesting, proper food storage and preservation <p>The government broadcasted some mass SMS to the residents of Kitwe alerting them on the anticipated floods.</p> <p>Coordination meetings with stakeholders</p> |
| January 28 (Day 7) | Expected impact of the flooding according to IbF and GloFAS. | <ul style="list-style-type: none"> ● The ZRCS deployed teams in the two districts to carried out the following activities: <ul style="list-style-type: none"> Shelter <ul style="list-style-type: none"> ○ Provision of information to communities about the identified safe havens. ○ Registration of beneficiaries of the most vulnerable households in the flood prone communities of Musonda, Chipata, and Malembeka of Kitwe District as well as the Chiyawa and Chanyaya in the Kafue District for the distribution of WASH items such as soap/chlorine, water-storage containers. ○ Registration of beneficiaries of the most vulnerable households in the flood prone communities of Musonda, Chipata, and Malembeka of Kitwe District as well as the Chiyawa and Chanyaya in the Kafue District for the distribution of non-food household items such as tents and sleeping mats. Health <ul style="list-style-type: none"> ○ Registration of beneficiaries of the most vulnerable households in the flood prone communities of Musonda, Chipata, and Malembeka of Kitwe District as well as the Chiyawa and Chanyaya in the Kafue District for the distribution of insecticide treated nets (ITNs) Water, Sanitation and Hygiene <ul style="list-style-type: none"> ○ Transportation of WASH material and household items from the regional warehouses to the districts for distribution to targeted individuals and families. Risk Reduction, climate adaptation and Recovery <ul style="list-style-type: none"> ○ Community sensitisation on early warning. ○ Dissemination of early warnings in all the anticipated higher-impact communities including Chiputi, Kambale, Gota Gota, and Chanyanya in Kafue as well as Wazakile and Riverside in Kitwe through radio and megaphones, as well as through volunteers that start house to house visits. ● The ZRCS held a coordination meeting with national-level stakeholders to brief them on the process. |
| January 29 (Day 8) & | Heavy Rains in Kitwe and water levels on the Kafue | <ul style="list-style-type: none"> ● The ZRCS deployed teams in the two districts to carried out the following activities: <ul style="list-style-type: none"> ○ Distribution of household items to targeted households (sleeping mats, tents, ITNs). |

| | | |
|------------------------|---------------------|---|
| January 30 (Day 9) | Riverine still high | <ul style="list-style-type: none"> ○ Distribution of wash materials including chlorine bottles, water storage 20lts containers, and tablets of hygiene soap to targeted households, joined with proper hygiene messages. ○ Distribution of IEC materials covering broader public health areas such as malaria, cholera, bilharzia, crossing flooded water bodies, and lightning. The IEC materials were distributed during door-to-door campaigns or prepositioned at the identified schools to be used as safe havens. |
| January 31 (Day 10) | | Further briefing for stakeholder and report writing |
| February 1 (Day 11) | | Further briefing for stakeholder and report writing |
| February 2 (Day 12) | Flood in Kitwe | Distribution of soap, water containers, mosquito nets and chlorine and improved practices |
| February 5 (Day 15) | Flood in Kafue | |

The early actions reached out to over 2,000 households in the two Districts of Kitwe and Kafue (between 500 – 800 households per community with 5 to 12 members per household).

Efficiency of the implementation

In terms of efficiency, all early actions were implemented within the seven-day lead time, even though the available time was rather short to effectively conduct all the planned activities, which included the distribution of NFIs to all the targeted 1,000 households per District given the vastness of the targeted communities. In the end, the floods did not materialize within the lead time, the floods peaked on day 12 in Kitwe District and day 15 in Kafue District.

In addition, heavy rainfall occurred during the distribution of WASH items, which slowed down the distribution process and caused beneficiaries to wait for long periods before distributions could resume. Early actions were also difficult due to poor road structure and limited access to certain areas.

Coordination worked well, ensuring synergies of human and financial resources from the public and private sectors. This resulted in technical contributions from experts, trainers, and experienced members of the RCRC movement, government, and private sectors, as well as financial flows to the EAP from the Zambia government through WARMA and DMMU.

Community feedback on the relevancy of early action activities

Most of the survey's respondents were satisfied and grateful with the ZRCS operation. Some members of the communities, recommended to start the dissemination of messages earlier, assist community members to unblock drainages before floods hit, assist communities in developing a plan per household, start activities in advance so that volunteers can distribute items in multiple locations.

The distribution of household items was done at a central location within the communities. This approach resulted in having both beneficiaries and non-beneficiaries attending the distribution. This led to security incidents and miscalculations of the quantities of household items, as some unregistered households, claimed and received household items, reducing the availability of items for the targeted households. The communities recommended to revise and improve household item calculations. Despite these challenges, the post distribution monitoring conducted towards the end of the EAP activation indicated a high level of satisfaction with 92% of respondents feeling satisfied or very satisfied with the support they received. Communities also indicated that the household items received were of good quality and delivered on time and respected what was promised to them. Some community leaders even emphasized that the insecticide treated nets and water containers were still being used by the community due to the high quality of the items. In the initial needs assessment, there were other items

including food, cash, and improved toilets, which were not delivered at the time of the activation because the DDMC decided not to prioritize them.



Besides, the community members interviewed by the JDP consultants described that the intervention of ZRCS helped them to know about the flooding, allowing them to create awareness among community members. According to them, the early actions mitigated the impacts of the floods on their household assets as some of them were able to evacuate some household assets and important documents. Likewise, the actions were helpful in reducing diarrhea and malaria thanks to the chlorine bottles received. **Early actions were thus useful to avert damage of vital documents, prevent waterborne (diarrhea and dysentery) and related diseases (malaria), facilitate the move to safe havens, and avoid deaths and injuries.** Priority was given to elderly, children, pregnant women, and people differently able. **The community members didn't have to resort to negative coping strategies such as selling their assets to buy food after the floods, drinking unsafe water, or having poor hygiene practices.** Only the members of the households that didn't hear the evacuation messages were injured. The distribution of Non-Food Items (NFIs) was sufficient during the floods and for two months after. Beyond that, communities reverted to boiling water to prevent dysentery and diarrhea and used the soap tablets provided by ZRCS to ensure hygiene practices.

My name is Estina Mwale (*Not real name*) and I am 65 years old woman living with disability (unable to walk and uses a wheelchair). I moved to Kafue in 2019 from Luapula province to help take care of my 9 grandchildren (4 girls and 3 boys). We have been experiencing floods since I came here and some of us moved to higher ground away from the river.

During the 2023 farming season, we had floods in January/February. The floods caused drainages to be full cutting access to the market and our source of livelihoods, which is fishing. Our toilets overflowed causing fecal matter to flow to our shallow wells (water points). This caused diarrhea and dysentery. We also experienced high cases of malaria incidences due to mosquitoes during the time. Children and the elderly people like me were affected the most.

ZRCS and volunteers informed us about the floods and what we should do in January. They selected me as a beneficiary as I do not work, and I am keeping 7 grandchildren. In February, the team came back to our community and gave me the following items.

- Two bars of multipurpose soap
- One 20-liter water container
- One mosquito net
- One bottle of chlorine

These items were very helpful. My household slept in mosquito nets and avoided malaria. We used the soap bath and wash our hands after using the toilets. We chlorinated our water from the shallow wells. We currently still use the mosquito nets to protect ourselves and the 10-litre container to draw water.

I am thankful to ZRCS and other partners for the help, however, more people received the items than those registered which resulted in us receiving less; initially we were receiving 3 bars of soap and this reduced to 2 bars for others.

ZRCS should consider the following:

- Giving mosquito nets per number of bed spaces and not per HH; our culture does not allow girls and boys to mix when sleeping.
- Giving more chlorine and bar soaps to last at least 3 months after the floods as still experience disease's during the time. Because of soap finishing some houses had scabies due to hygiene.
- Giving in-kind cash for us to afford other things, especially nutritious food.
- Consider support for us to start small businesses that is more sustainable.

The financial resources were enough for covering the needs of the targeted beneficiaries, yet the triggered communities had more than the targeted number of exposed populations, making it difficult to select who to support from a pool of equally vulnerable households.

2) Learn how the transition from anticipatory action to emergency response went and what we can take away from this transition.



*Zambia Red Cross promoting early warning messages on local radio in advance of floods in Kitwe and Kafue Districts.
(Photo credit: ZRCS)*

ZRCS only implemented early actions in the Districts of Kitwe and Kafue as the floods occurred in a lower scale than anticipated which did not lead to a response operation.

However, heavy rains in the south of the country began on 7 February, intensifying on 9 February, ultimately affecting Namwala, Monze, and Mazabuka districts. According to reports from DMMU, the Southern Province of the country experienced the most severe flooding in 50 years. The flooding occurred across 9 provinces (37 districts) with Southern Province experiencing the most severe impact. This situation resulted in devastating impacts, with over 25,768 households (equivalent to 154,608 people) affected by the floods in five Districts of the Southern Province. The three districts listed above were the most hit with 1,394 displaced households that had to be accommodated across 20 camps.

Even if there was not a clear transition from early action to response, it is possible to extract some conclusions on the benefits of implementing early actions before an emergency.

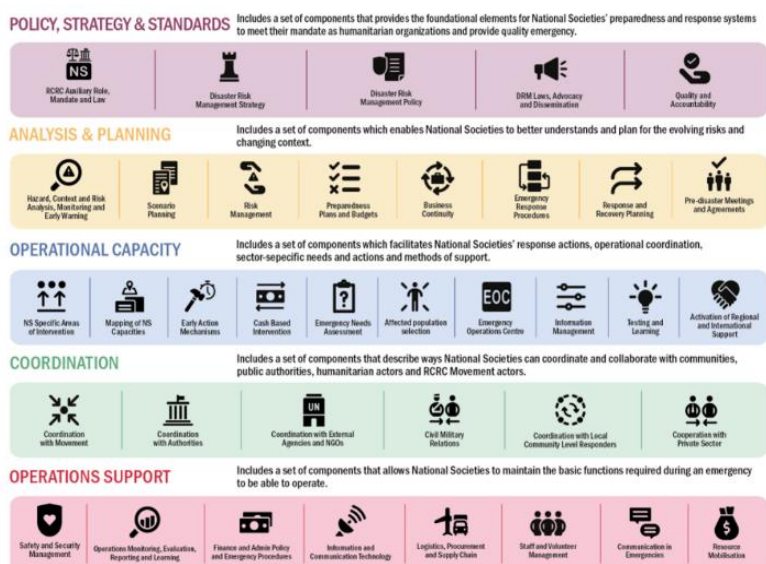
- Firstly, under the EAP, ZRCS conducted a comprehensive capacity need assessment, as part of its preparatory measures, that was useful for successfully responding to beneficiaries needs during floods.
- Secondly, the EAP enabled ZRCS to train volunteers in a variety of sectors and interventions such as early warning, early action, hygiene and disease prevention, as well as evacuation, among others, so that they are better prepared to provide timely response actions.
- Thirdly, the EAP allowed ZRCS to preposition and transport the stock to provinces, and to distribute household items to target households, empowering them to prevent disease outbreaks including malaria, diarrhea and dysentery, saving lives, preventing injuries and protecting assets. In addition, the EAP allowed ZRCS to improve coordination with stakeholders by defining clear roles and responsibilities with district authorities.
- Finally, the EAP enabled ZRCS to minimize the impact and costs of response by evacuating people on time, helping them to preserve vital assets, and providing the items necessary to prevent diseases.

Meanwhile heavy rains in the south of the country began on 7 February, intensifying on 9 February, affecting Namwala, Monze, and Mazabuka districts. ZRCS responded to these floods using resources under the DG ECHO PPP as well as a DREF allocation on 25 February for CHF 451,422 supporting 8,364 people for 4 months (MDRZM019). Response actions were guided by ZRCS contingency plan. While this operation did not represent a transition from early action to response, there are lessons which point to the benefit of doing early action, in

advance. These lessons include inaccessibility due to destroyed roads and submerged bridges, which could be overcome, if the National Society acted in advance when roads and bridges were intact (although to some extent access was also a challenge for early action). Another lessons highlighted as part of the response is that having detailed planning and coordination with supplier expedites procurement and mitigates response delays, which can be put in place as part of readiness. In addition, there is an important lesson related to multipurpose cash, where experience and learning from previous interventions is key for effective response. The response used the experience, tools and skills gained from previous cash interventions as well as Red Rose facility to fast track the cash component of this operation.

The EAP should be directly aligned with the contingency plan. The people involved in the development of both documents tend to be the same, which ensures minimum coherence and avoids disconnection. However, according to the testimony of one stakeholder, sometimes it is difficult to align the two documents as they contain different triggers. The experience of February 2023, where both the EAP and the contingency plan were active, is a great opportunity to identify linkages and disconnections based on practical implementation. Whilst there seems to be tangible evidence of complementarity, it remains essential to explain the link between the two documents and approaches to all stakeholders to ensure mutual understanding for an effective response.

3) To what extent did the implementation of the two approaches of anticipatory action and Preparedness for Effectiveness Response work in synergy in getting the ZRCS ready to respond to the situation?



The Preparedness for Effective Response (PER) is a continuous and flexible process that enables National Societies to assess, measure, and analyze the strengths and gaps of its preparedness and response mechanism, and ultimately take necessary action to improve it.

In 2019, ZRCS started to implement this approach by conducting a full assessment of their capacities which led them to focus on strengthening the following eight components of their response and preparedness capacity:

For more information on the PER process and the 37 components, please visit the IFRC website

1. policy and strategy
2. communication in emergencies
3. hazard context and risk analysis
4. early action mechanisms
5. emergency response procedures
6. logistics procurement and supply chain
7. civil military relations
8. cash-based interventions

Between 2019 and 2023, ZRCS focused on strengthening the following capacities thanks to funds channeled based on the outcomes of the PER assessment:

- Prioritized cash preparedness (mapping out financial service providers in-country, signing agreements, training the staff and volunteers on cash etc.).
- Started the process to develop an Emergency Operation Centre as a decision-making apparatus for imminent response.
- Downscaled the multi-hazard contingency planning to branch levels.
- Developed early action mechanisms through the development of the Early Action Protocol for Floods.
- Based on the available risk analysis, it identified flood and drought to be a priority for anticipatory actions (pre-agreed plan, defined thresholds and forecast mechanisms).
- Developed Standard Operating Procedures (SOPs) for their EAP and Multi-hazard Contingency Plan, which helped in operationalising the tools.
- Conducted Enhanced Vulnerability and Capacity Assessments (EVCAs), developed community anticipatory action plans and informed household items distributions.
- Developed a Disaster Management (DM) policy and Strategy.
- Implemented readiness activities in high-risk zones and identified safe havens in at risk communities.

Most of the above activities contributed in making ZRCS eligible for anticipatory action funds from the IFRC-DREF (by having an approved EAP), developing a better informed EAP closer to the needs of the population at risk, increasing the role and visibility of ZRCS on anticipatory action and emergency response among the national humanitarian actors, making ZRCS closer to the communities they support in general and more specifically in the areas targeted by the EAP. The development of community anticipatory action plans is essential to bridge the gap between institutional protocols and communities' capacities, as it ensures strong synergies between communities' efforts and ZRCS support.

This study highlighted that the engagement and support of local communities and stakeholders was critical to the success of ZRCS' efforts. Indeed, ZRCS worked closely with different key district stakeholders, including government institutions (including WARMA, DMMU, Ministries of Health and Agriculture), local community leadership, private sector (mobile telecommunications provider) and other humanitarian actors, to provide potential immediate needs to the communities maximizing the collective impact of the early actions. Coordination, however, was not consistent across the whole activation process and improvements could be made between ZRCS and the district structures. Throughout the process, ZRCS encouraged the local communities to take an active and leading role in disaster risk reduction and preparedness through actions including protecting their homes and families and participating in early warning systems and evacuation plans.

More generally, the investments in preparation and response in priority areas, identified through PER, enabled ZRCS to be better placed to respond to the wave of COVID, cholera, epidemics and floods that hit Southern provinces since January 2023.