

The Zurich Flood Resilience Alliance Phase II

# Impact Report

2018-2024



# impact

 /'ɪm.pækt/

## **noun**

- 1 a powerful effect that something, especially something new, has on a situation or person



The **Zurich Flood Resilience Alliance** was a multi-sectoral partnership which brought together community programmes, new research, shared knowledge, and evidence-based influencing to build community flood resilience in developed and developing countries. Its vision was that floods should have no negative impact on people's ability to thrive.

This report highlights the impact and change that the Alliance achieved as a result of its community engagement, learning, research, and advocacy work in Phase II of the Zurich Flood Resilience Alliance.

The report's executive summary can be found [here](#).

A digital report highlighting Alliance achievements and impact stories can be found [here](#).

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## Acknowledgements

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# Acronym list

|                   |                                                                                                                                                                                                                                                            |                |                                                                                                                     |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------------------------------------------------------------------------------|
| <b>5C-4Rs</b>     | a conceptual framework used by the Alliance, describing the five “capitals” (human, social, physical, natural, and financial) and four properties (robustness, redundancy, resourcefulness, and rapidity) forming the 44 sources of resilience in the FRMC | <b>LATAM</b>   | short for ‘Latin America’; includes Mexico and Central and South America                                            |
| <b>Alliance</b>   | the Zurich Flood Resilience Alliance                                                                                                                                                                                                                       | <b>L&amp;D</b> | Loss and Damage                                                                                                     |
| <b>AMT</b>        | the Alliance Management Team                                                                                                                                                                                                                               | <b>KPI</b>     | Key Performance Indicator                                                                                           |
| <b>CCA</b>        | Climate Change Adaptation                                                                                                                                                                                                                                  | <b>L&amp;D</b> | Loss & Damage                                                                                                       |
| <b>Concern</b>    | Concern Worldwide                                                                                                                                                                                                                                          | <b>LSE</b>     | London School of Economics                                                                                          |
| <b>COP</b>        | Conference of the Parties, the annual United Nations Climate Change Conference                                                                                                                                                                             | <b>MRL</b>     | Monitoring, Reporting, and Learning                                                                                 |
| <b>COVID-19</b>   | Coronavirus disease                                                                                                                                                                                                                                        | <b>NGO</b>     | Non-Governmental Organization                                                                                       |
| <b>CSRID</b>      | Climate Smart, Risk-Informed Development                                                                                                                                                                                                                   | <b>ODA</b>     | Official Development Aid                                                                                            |
| <b>DRM</b>        | Disaster Risk Management                                                                                                                                                                                                                                   | <b>PERC</b>    | Post Event Review Capability                                                                                        |
| <b>DRR</b>        | Disaster Risk Reduction                                                                                                                                                                                                                                    | <b>Plan</b>    | Plan International                                                                                                  |
| <b>EWS</b>        | Early Warning System                                                                                                                                                                                                                                       | <b>SENAMHI</b> | the National Service of Meteorology and Hydrology of Peru (Servicio Nacional de Meteorología e Hidrología del Perú) |
| <b>FRMC</b>       | Flood Resilience Measurement for Communities                                                                                                                                                                                                               | <b>TLF</b>     | the Alliance Team Leaders’ Forum                                                                                    |
| <b>Foundation</b> | Z Zurich Foundation                                                                                                                                                                                                                                        | <b>ToC</b>     | Theory of Change                                                                                                    |
| <b>GBP</b>        | Great British Pound currency                                                                                                                                                                                                                               | <b>UK</b>      | United Kingdom                                                                                                      |
| <b>IBFI</b>       | Index-based Flood Insurance                                                                                                                                                                                                                                | <b>UNDP</b>    | United National Development Programme                                                                               |
| <b>IFRC</b>       | International Federation of Red Cross and Red Crescent Societies                                                                                                                                                                                           | <b>UNFCCC</b>  | United Nations Framework Convention on Climate Change                                                               |
| <b>IIASA</b>      | the International Institute for Applied Systems Analysis                                                                                                                                                                                                   | <b>USD</b>     | United States Dollar currency                                                                                       |
| <b>ISSET</b>      | the Institute for Social and Environmental Transition-International                                                                                                                                                                                        | <b>WASH</b>    | Water, Sanitation, and Hygiene                                                                                      |
|                   |                                                                                                                                                                                                                                                            | <b>ZCRA</b>    | Zurich Climate Resilience Alliance                                                                                  |
|                   |                                                                                                                                                                                                                                                            | <b>Zurich</b>  | Zurich Insurance Group                                                                                              |



*Community Contribution for Flood Protection Measures in Nepal © Mercy Corps Nepal*

# 1 Introduction

## VISION

Floods have no impact on people's or businesses' ability to thrive

### OBJECTIVE 1



Climate-smart, risk-informed flood resilience practice becomes "business as usual"

### OBJECTIVE 2



Funding for climate-smart, risk-informed development with a focus on flood resilience is increased and equitably disbursed

### OBJECTIVE 3



Laws, policies, plans, and strategies for climate-smart, risk-informed flood resilience are implemented

## 1.1 About the Alliance

Floods affect more people globally than any other type of natural hazard and cause some of the largest economic, social, and humanitarian losses. In response, the Z Zurich Foundation (the Foundation), funded by the Zurich Insurance Group, launched the Zurich Flood Resilience Program in 2013. The programme brought together a multi-sector partnership focused on finding practical ways to help communities strengthen their resilience to floods globally.

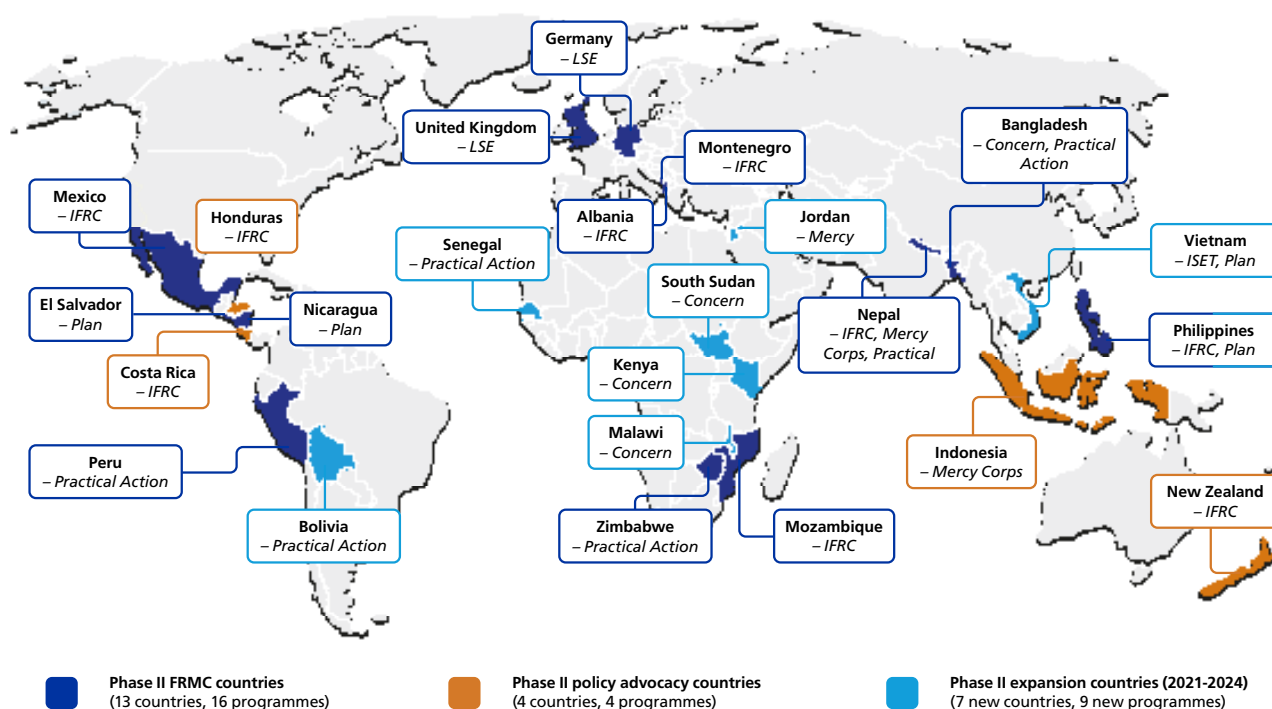
The initial five-year Zurich Flood Resilience Program, Phase I, was funded to run from 2013 to 2018. It focused on working with communities and local and national governments to shift investments from post-event recovery to *ex ante*<sup>1</sup> resilience building.

Based on the [successes of Phase I](#), in 2018, the Foundation extended funding for a second five-year phase (Phase II) with more ambitious goals. Relaunching as the Zurich Flood Resilience Alliance (the Alliance), the programme ambitiously committed to building the resilience of 2 million people to floods and influencing an additional USD 1 billion of funding from public and private sources towards [Climate-Smart, Risk-Informed Development \(CSRID\)](#); the Foundation reiterated these [commitments at the UN Climate Action Summit in 2019](#). To achieve its targets, the Alliance focused on three objectives: improve flood resilience practice, increase flood resilience funding, and improve flood resilience policy.

Alliance teams worked towards these objectives through delivering community programmes, producing new research, sharing Alliance knowledge, and influencing key stakeholders on flood resilience. Programme approaches were designed based on the findings of rigorous research, including the application of an Alliance-developed community flood resilience measurement framework and tool, the Flood Resilience Measurement for Communities (FRMC, [see Section 3.2](#)).

1 *Ex ante* means taking action in advance of expected risk. Alliance research has documented that [every USD 1 invested in flood risk reduction saves on average USD 5 in future losses](#). Yet globally, funding for pre-event action falls short; the majority of flood spending is on post-event recovery, when it is most costly and least efficient. Addressing gaps in *ex ante* investment could reduce costs and losses and save lives, while simultaneously helping reduce humanitarian suffering.

Figure 1. Map of the countries where the Alliance engaged in during Phase II



Phase II began with 20 programmes in 17 countries. In 2021, the Alliance was expanded to include an additional nine programmes in seven new countries, and was extended by an additional 18 months (through the end of 2024) to account for the impact of COVID-19 on programmes and communities, and enable greater impact.<sup>2</sup> Thus, by the close of Phase II, the Alliance implemented 29 programmes in 24 countries of operation (see [Figure 1](#)).

The Alliance was collaboratively governed and designed by partners to support knowledge- and capacity-sharing and maximise impact. Phase II Alliance partners came from the humanitarian, development, research, and private sectors, and included: Concern Worldwide (Concern), the Institute for Social and Environmental Transition-International (ISET), the International Federation of Red Cross and Red Crescent Societies (IFRC), the International Institute for Applied Systems Analysis (IIASA), London School of Economics (LSE), Mercy Corps, Plan International (Plan), Practical Action, Zurich Insurance Group (Zurich), and the Z Zurich Foundation (the Foundation).

The composition of the Alliance partners was mostly continuous across Phases I and II, with the departure of one partner, Wharton Business School, and addition of two new partners, ISET and LSE. Continuing with the same partners ensured application of learning, continuity of thinking, and a strong foundation from Phase I; the addition of a small number of new partners brought in new thinking and expanded capacity.

<sup>2</sup> Phase II ultimately did not run through the end of 2024. The next and current iteration of the Alliance, the Zurich Climate Resilience Alliance (ZCRA), launched in 2024 as part of the Z Zurich Foundation Vision 2035. As a result, the closing of Phase II work and the start of ZCRA work overlapped in the first half of 2024. All Alliance partners remained the same in this transition, along with 16 of the Alliance Phase II country programmes.



Farmers enrolling in the Index-based Flood Insurance programme, Nepal © Prabesh Chaudhary

## 1.2 About this report

This report provides a comprehensive overview of Phase II, its impact and achievements, and impact stories from across the Alliance. Each chapter provides an in-depth review of the key aspects of the Alliance:

- The remainder of Chapter 1 highlights the Alliance's people impacted and spending influenced figures and the stories behind those numbers. It also provides an overview of the outcomes broadly achieved by the Alliance.
- Chapters 2, 3, and 4 summarise the Alliance's enabling environment and internal infrastructure. Chapter 2 provides an overview of the Alliance's principles and how the Alliance was set up to deliver change. Chapter 3 focuses on the Alliance's definition of resilience, its global Theory of Change (ToC), and the FRMC framework and tool for operationalising resilience (including an overview of the tool validation). Chapter 4 explains the Alliance's reporting system and approach to measuring its Key Performance Indicators (KPIs) – the number of people impacted and the amount of spending influenced.
- Chapters 5 through 8 review the Alliance's key achievements, supported by impact stories. Chapter 5 highlights the types of outcomes achieved across Alliance country programmes and advocacy. Chapter 6 shows how the communities Alliance teams worked with have fared better during floods and discusses how and why community resilience measurement grades changed between programme start and close. Chapter 7 focuses on the challenges that the Alliance faced and how it adapted to those challenges to enable continued progress. Chapter 8 discusses where the Alliance expects to see the sustained impacts of its programming.
- Chapter 9 concludes the report with the introduction of the Zurich Climate Resilience Alliance, which started in 2024 as part of the Z Zurich Foundation's Mission 2035. It is the next evolution of Alliance programming, and carries over the foundations and learnings from Phase II.

This report is a part of the [Phase II Foundations for Change series](#). The series consists of annual reports that document progress, impact, and learning from the Alliance. It is based on the analysis of annual reporting provided by Alliance teams through the

Alliance Monitoring, Reporting, and Learning (MRL) system ([see Section 4.1](#)). This report draws from the full Foundations for Change series and a final questionnaire completed by Alliance teams that documented key community programming and advocacy achievements and how they were achieved, evidence of increased community resilience, and key challenges. It also builds on the [Zurich Flood Resilience Alliance Phase I impact report \(2013-2018\)](#) and peer-reviewed papers written by IIASA on the validation of the FRMC (see [Annex 2](#)).

## 1.3 Alliance achievements

### KEY TAKEAWAYS

- Over the course of Phase II the Alliance exceeded the targets it had set for its two key performance indicators – people impacted and spending influenced.
- There were paradigm shifts in Alliance communities and within Alliance teams with increased engagement on *ex ante* action.

#### 1.3.1 KPI: People impacted

The Alliance aimed to build the resilience of 2 million people. Alliance community programmes and advocacy exceeded this target and impacted 3.14 million people. [Section 4.2.1](#) explains how the Alliance counted people impacted.

The Alliance achieved its target through contextually-grounded and evidence-driven programmes that consisted of a combination of advocacy, community programming, and knowledge and research efforts. The stories behind the three largest people impacted numbers contributing to the 3.14 million total are included below.

Figure 2. People positively impacted by Alliance work in Phase II



Mercy Corps Indonesia

## Impact story


  
1,300,000
   
people impacted


*Carrot farmers apply adaptive cultivation methods by considering climate information and implementing water and soil conservation measures © Mercy Corps Indonesia*

Mercy Corps Indonesia's impact is the result of multiple, interrelated activities designed to improve the government's understanding of flood risk and strengthen its capacity to take action. Alliance knowledge was central to the design. Mercy Corps Indonesia began their work with the development of a technical model that illustrates how current flooding challenges are due to both river flooding and coastal inundation, which is exacerbated by storms, high-tide, and non-climatic factors like land subsidence. Model results clearly illustrated that solutions beyond sea walls and other hard protection infrastructure are needed to address current and growing economic damages. Mercy Corps Indonesia then worked with the government to successfully influence sub-national development policies to include provisions for addressing land subsidence and building flood resilience through integrated water resource and coastal zone management, using a landscape-based approach. They also provided technical support for the design of a major dam and reservoir that could serve as an alternative water resource, reducing the dependency on groundwater extraction that is exacerbating flooding in the region.

In parallel, Mercy Corps Indonesia also developed a resilient livelihoods approach, utilising different ways of working in upstream and downstream communities. Upstream, the focus was to promote conservation principles in agriculture while introducing commodities that are more climate resilient. Downstream, the focus was on aquaculture that simultaneously enables people to adapt to increased flood risk and changing rainfall patterns, increase yields, and increase livelihoods opportunities across the whole supply chain. Alliance-produced evidence informed this approach and supported the development of original knowledge products, such as the video '[Tarudi and Muriah's story](#)', which illustrates how the resilient livelihoods approach builds physical and economic resilience to flood risk.

Using both their technical model and resilient livelihoods approach, the Mercy Corps Indonesia team was able to emphasise the relevance of flood risk to development, rather than solely as a disaster management issue. By helping government actors understand why and how they needed to move beyond hard infrastructural flood protection measures, and by supporting the development of actions that both addressed the root cause of flooding and supported adaptation, Mercy Corps Indonesia's work impacted the local population of 1.3 million people.

Practical Action Peru

## Impact story

  
**457,000**  
 people impacted

In the Rímac watershed near Lima, Peru, 9.3 million people – over one third of Peru’s total population – face intense rainfall-related hazards like flash floods and landslides with no means to forecast or prepare for these events. These risks, which are getting worse, are compounded by water scarcity, rapid land use change, and high population density. In 2013, Practical Action identified this as a strategic opportunity to align their work with broader policy priorities and needs, and effect long-term change.

In 2021, in large part due to Practical Action Peru’s efforts, the National Service of Meteorology and Hydrology of Peru (Servicio Nacional de Meteorología e Hidrología del Perú, SENAMHI), funded and launched a national programme to expand early warning systems (EWS) in the Rímac Watershed. As part of this programme, and with Practical Action’s support, SENAMHI is scaling out Practical Action’s community-based EWS approach. Newly installed rainfall monitoring stations coupled with early warning systems are benefiting approximately 457,000 people by alerting them of potentially dangerous flooding. This effort aims to provide over 9 million people with improved access to early warnings.

This win was a result of Practical Action’s long-term engagement with SENAMHI. Practical Action used Phase I of the Zurich Flood Resilience Alliance (2013-2018) as a proof of concept for their EWS model and to build credibility among key national government institutions.

In Phase II, Practical Action focused on sharing, at the national and regional levels, their experience operationalising the EWS model and evidence of its success.

Though initially skeptical of Practical Action’s EWS model, national agencies have increasingly realised its value. Practical Action’s approach, in particular, builds community capacity to access, disseminate, understand, and use forecasts. This fills a critical need for national weather agencies: access to and integration of communities as users of climate services. The model also aligns with both SENAMHI and international understandings of EWS and has significant potential to improve flood management and risk reduction in Lima.



*Meeting and sharing of information for the operation of a monitoring station between Practical Action and SENAMHI teams in Arequipa, Peru*

© Practical Action

Concern Kenya

## Impact story

  
**360,000**  
 people impacted

In 2023, the Tana River County government committed to increasing the county budget allocation for Disaster Risk Reduction (DRR) from two to 10%. Furthermore, they allocated 1.4% of the total disaster budget specifically to flood preparedness, mitigation, response, and recovery. These increases are a result of Concern Kenya's community advocacy work on the need to increase funding for DRR as well as the need to earmark funds specifically for flood resilience, rather than disasters in general.

While this marked increase in funding was, in itself, a remarkable win, the Concern Kenya team was especially excited because it meant that there would be money set aside for the regular flood events that occur in Tana River County. This was a clear departure from the past, where disaster-related budget allocations were not specific and could be drawn to respond to any form of disaster. Because there was often little or no money left over for flood disasters, humanitarian organizations typically needed to step in and provide flood response. With this budget change, funding has now been allocated for the first time towards flood resilience, and in a way that is both adaptive to the changing contexts of floods and their impacts and aligned with priorities identified by the communities.



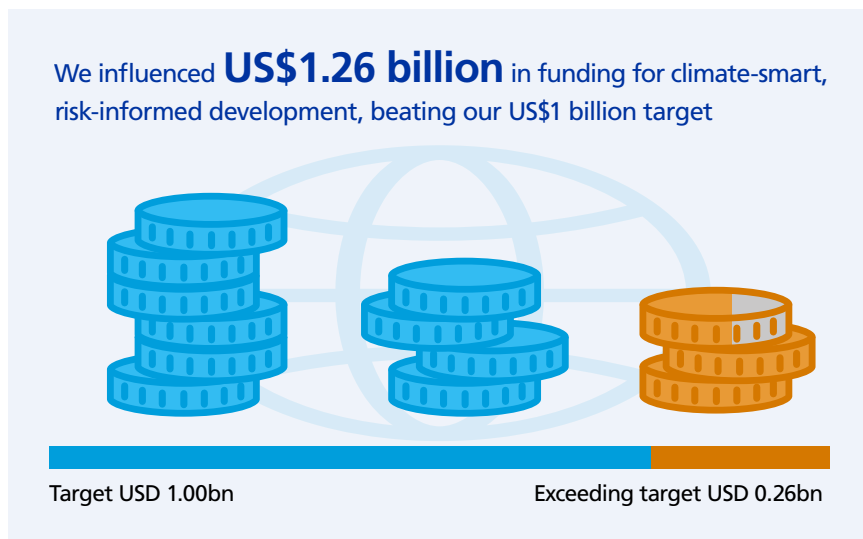
This budget change was put to the test in late 2023 to early 2024. While Kenya was still recovering from severe drought, El Niño rains led to flooding in Tana River County. In contrast with previous years, the government was ready: the earmarked funds supported preparation of food stores and rescue training, amongst other protective actions. The government was first to respond by providing evacuation services and food and non-food items to the communities. As a result, communities were better able to cope during the flood. Post-flood, the government provided recovery services like the distribution of certified seeds to improve community members' livelihoods.

*Kiembeni community participating in the FRMC process © Euniah Miruka, Concern Worldwide*

### 1.3.2 KPI: Spending influenced

The Alliance aimed to influence USD 1 billion of funding towards CSRID. The Alliance exceeded this target, influencing USD 1.26 billion of funding towards CSRID.

Figure 3. Spending influenced towards CSRID in Phase II



The Alliance's spending influenced number is the result of Alliance contributions towards:

- provincial-level commitments to increase DRR funding;
- the design of various national risk management programmes;
- global funding commitments for climate change adaptation; and
- operationalisation of the United Nations Framework Convention on Climate Change's (UNFCCC) loss and damage fund.

The Alliance counted a portion of money from these wins towards its spending influenced target, based on its estimated contributions towards those wins ([see Section 4.2.2](#)). Nearly half of the money influenced by the Alliance was at the global level, where the Alliance engaged over multiple years to influence global dialogues and national commitments to fund adaptation. However, though contributing to global funding wins was important, smaller spending wins at the local, sub-national, and national levels were equally important and impactful.

The most significant numbers behind the Alliance's spending influenced number, of which the Alliance counted a percentage based on Alliance contribution, include:

- The COP26 policy commitment to double adaptation funding from USD 20 billion to USD 40 billion by 2025. There were many drivers for this achievement, and allocating contribution is difficult with such a complex change. Nonetheless, the Alliance played a significant part in influencing this commitment via direct engagement with the UK government, compiling and disseminating evidence of the gaps in adaptation finance through the '[A Fair Share of Climate Finance](#)' report series, and Alliance leadership in key coalitions (e.g. the BOND Development and Environment group, the Friends of Adaptation group, and the Loss and Damage Group).

- LSE and Zurich UK influenced the doubling of investment in flood and coastal defenses in England in 2020, to GBP 5.2 billion (nearly USD 7 billion). GBP 2.6 billion (nearly USD 3.49 billion) was allocated towards better protecting 300,000 homes by 2021; GBP 200 million (nearly USD 270 million) was allocated to nature-based solutions; and a GBP 150 million (just over USD 200 million) Flood and Coastal Resilience Innovation Programme was created to fund local resilience-building efforts. Money was allocated based on FRMC analysis results, carried out in collaboration between LSE and East Suffolk Council on the East Coast of England, as well as on LSE's triple dividend approach.<sup>3</sup>
- Mercy Corps and Plan Canada, alongside other actors, played a role in influencing a 19% increase in the Green Climate Fund's allocation of adaptation funding – amounting to a total of USD 850 million in funding – towards countries most vulnerable to climate change (Least Developed Countries, Small Island Developing States, and African countries).
- In Peru, Practical Action influenced the integration of non-structural measures into large-scale national investment projects planned by the National Authority for Reconstruction with Changes; these programmes total over USD 150 million in investment towards flood resilience. One of the projects focused on 14 districts in the Rímac Watershed and included measures for raising community awareness on riverine flood risk and integrating climate change projections. Another project focused on four districts in the Rímac Watershed, chose districts in part based on Practical Action's recommendations, and defined one of its outcomes as, “resilient people with a disaster risk management culture”.

3 The triple dividend approach advocates for conducting development in ways that: (i) avoid and reduce direct and indirect disaster risk and losses, (ii) unlock economic potential by stimulating economic activity, and (iii) generate development co-benefits by ensuring that investments, where possible, serve multiple uses. See Rözer et al., 2023.

## BOX 1. HOW THE ALLIANCE APPROACHED ENHANCING FLOOD RESILIENCE

The Alliance worked to improve flood resilience practice, policy, and spending through a combination of advocacy, community programming, and knowledge and research efforts. This included:

- Working in communities across multiple countries to generate empirical evidence of how to enhance and measure flood resilience;
- Applying the Post Event Review Capability (PERC) methodology ([see Box 6 in Section 3](#)) to understand how natural hazards become humanitarian disasters and provide practical recommendations for the future;
- Expanding community flood resilience knowledge and solutions available across the sector through the global online Alliance portal and additional regional portals;
- Conducting targeted research to address gaps in knowledge and understanding;
- Using practical knowledge and research to actively advocate for policy and investments at sub-national, national, and international levels; and,
- Influencing donors, governments, and practitioners to adopt more effective flood resilience practices.



### 1.3.3 Knowledge achievements

The generation, dissemination, and use of knowledge related to strengthening the evidence base for building resilience was a key focus of Phase II.

A flood resilience portal was developed to house the repository of not only Alliance-generated flood resilience knowledge, but flood resilience knowledge more broadly. Regional portals were also developed for LATAM, Bangladesh, Nepal and French West Africa and were critical for reaching local stakeholders.

Alliance teams generated knowledge in a multitude of formats to support their community programming and advocacy. The knowledge produced by Alliance teams was instrumental for supporting government policy and spending shifts from the local-to-global levels, and encouraging government and donor interest and investment in Alliance solutions. Indeed, knowledge generation, dissemination, and uptake frequently appear in the impact stories in this report as drivers of change and impact.

Flagship knowledge products produced include:

- The flagship advocacy reports that were used for global advocacy on increasing climate adaptation finance and bringing attention to Loss and Damage. Influence targets (including representatives from multi-laterals, government, and civil society advocacy coalitions) used content from these reports to shape and justify policy asks and changes. [See Annex 3](#) for a list of flagship advocacy reports and associated products produced in Phase II.
- The resilience [solutions series](#) that document successful resilience solutions implemented by Alliance teams and provide a blueprint for other organizations wanting to replicate those solutions in their own contexts. [See Annex 3](#) for a list of solutions produced in Phase II.

The Alliance also prioritised internal learning on what works and does not work for building resilience. Beyond smaller-scale learning exchanges, the Alliance organized a Global Learning Event in 2023 that was a resounding success. It brought together 80

participants from across 13 organizations and 22 countries to share learning on resilience solutions and build cross-regional linkages and collaboration. Also in attendance were members of the [Urban Climate Resilience Programme \(UCRP\)](#), the Alliance's sister programme. As a result of peer-to-peer learning, Alliance teams found new ways to engage in their countries and communities; for example, teams trialled new EWS approaches and facilitated new ways of engaging communities in advocacy.

## BOX 2. ENDORSEMENT OF ALLIANCE KNOWLEDGE

Alliance research and knowledge was featured and/or referenced in peer-review articles and policy documents. Some significant examples include:

- The Warsaw International Mechanism for Loss and Damage, the decision body providing technical guidance on Loss and Damage from the UNFCCC, endorsed the [‘Falling through the gaps: how global failures to address the climate crisis are leading to increased losses and damages’](#) report.
- The REAP Secretariat used the [‘At What Cost: How chronic gaps in adaptation finance expose the world’s poorest people to climate chaos’](#) report in their G7 disaster risk financing briefings and in their policy recommendations to the Centre of Disaster Protection.
- The Red Cross Red Crescent Movement and the German government used the [‘PERC Flood event review ‘Bernd’](#) report — which highlights gaps in and recommendations for improving *ex ante* action in Germany, Belgium, Luxembourg, and the Netherlands — to promote holistic resilience thinking.
- The Ministry of Interior of the Government of Montenegro, in [‘The Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030: Voluntary Review and Report of Montenegro’](#), showcased the Alliance programme in Montenegro, as it contributed to all four priority areas of the Sendai Framework.
- The United Kingdom (UK) government’s [‘Evidence Review of the Concept of Flood Resilience’](#) report specifically recommends using the Alliance flood resilience framework as a part of the approach to flood and coastal erosion resilience.

The Alliance and its work received significant coverage by media outlets, including (but not limited to): BBC, Daily Telegraph, Devex, Context, Climate Home, Third Pole, the National, New Statesman, Dhaka Tribune, Swiss Broadcasting Corporation, and Al Jazeera.

Our op-eds were featured in: Thomson Reuters Foundation News, World Economic Forum, Context, Euronews, Irish Examiner, Prevention Web DRR Community Voices, Humanitarian Practice Network, and From Poverty To Power.

Beyond these examples, many of the impact stories in this report mention specific cases of knowledge uptake as drivers for change, such as in Indonesia ([Impact Story 1](#)) and Bangladesh ([Impact Story 6](#)).

### 1.3.4 Beyond the numbers

The Alliance's achievement of its KPIs gives only a partial view into the changes achieved. Looking beyond the numbers is equally exciting, with evidence of Alliance teams achieving paradigm shifts in the localities in which they work. Communities and government in project locations who were once predominantly focused on response, especially at the local and sub-national levels, began to engage more on *ex ante* action. In addition, the programme supported a paradigm shift for partner organizations and country teams themselves. Organizations that were once focused only on particular sectors began to engage in new sectors, and others that were originally primarily focused on community programmes increasingly engaged in advocacy as Phase II progressed.

Broadly, Alliance country teams achieved the following types of changes (discussed in greater detail in [Section 5](#)):

- Mobilisation around key global issues like Loss and Damage and the need to increase global climate adaptation funding;
- Communities that are advocating for their resilience needs and implementing their own resilience activities;
- Government decision-making that is more inclusive, such that communities are better able to access government institutions and policy-making processes, and community resilience priorities are included in plans and policies;

*"Before, we just waited until the flood came and then took action. Through awareness sessions, meetings, and discussions, our community is much more informed. We now prepare ourselves for the flood."*

- Mst. Nur Moslema, a Community Resilience Action Group member from Belka Nababganj in Bangladesh



### BOX 3. ENDORSEMENTS OF THE ALLIANCE AND ALLIANCE APPROACH

The Alliance, its programmes, and Alliance approaches such as the FRMC and the PERC have received endorsements and support from a variety of stakeholders, including governments, donors, and INGOs.

In Phase II, the Alliance has received awards from private industry and the public and international development sectors:

- **2019: National Hurricane Conference (USA) Outstanding Achievement Award**, in recognition of the Alliance's PERC methodology.
- **2019: National Civil Protection Award** (Mexico) to the Mexican Red Cross for its community brigades approach, developed as part of its Alliance programming.
- **2019: Business Insurance Innovation Award**, which "recognise[s] innovative products and services designed for professional risk managers." The Alliance won an award for its PERC methodology.

Alliance approaches have also been scaled, replicated, and expanded:

- **2019: Lutheran World Relief** found the FRMC so useful that they scaled their use of the tool from four to 12 communities.
- **2019: Habitat for Humanity in Cambodia** conducted pilot research using the FRMC in Battambang. They intend to further incorporate the FRMC into relevant programmes as a key assessment tool.
- **2021: the Swiss Agency for Development and Cooperation and Practical Action** developed a regional programme to strengthen sub-national and national Early Warning and Early Action in the Andes, significantly expanding Alliance EWS approaches in Latin America.

- Strengthened relationships between government and local stakeholders that resulted in greater coordination and collaboration on disaster risk reduction (DRR), preparedness, response, and recovery;
- Scaling, replication, and institutionalisation of Alliance-developed decision-support tools and good resilience practices – especially EWS, index-based flood insurance schemes, community-based groups, and small-scale nature-based solutions;
- Donor funding to expand on good resilience practices such as EWS and index-based flood insurance and address other evidence-backed community resilience priorities;
- Local-level funding for resilience from government and via new community funding mechanisms;
- Infrastructural improvements that strengthened community access to critical infrastructure services (waste management; water, sanitation, and hygiene; and EWS) and reduced flood risk (via improved stormwater drainage and strengthened flood protection);
- Strengthened livelihoods that resulted in economic diversification, increased income generation potential, and contributed to improving community flood coping capacity; and,
- Improved flood outcomes in many communities due to a combination of the above changes.

At the root of these changes is the Alliance's investment in building a common foundation, developing shared tools and approaches, enabling shared learning and collective action, and incentivising all members of the Alliance to learn and grow in their work. This was supported by a long-term, flexibly funded, collaborative model and rigorous evidence-driven approach that enabled Alliance teams to both develop contextually-grounded programmes and leverage emergent opportunities to maximise impact ([see Section 2](#)).

## 2 The inner workings of the Alliance

### KEY TAKEAWAYS

- The Alliance's proactive programming approach was enabled through long programme timeframes, investment in internal learning, collaborative decision-making, a change-oriented focus, and budget flexibility.
- Its proactive programming approach supported the delivery of contextually-grounded programmes that were able to leverage emergent opportunities and challenges towards progress and impact.
- The Alliance's internal infrastructure enabled deep collaboration, collective action, resource-sharing, and peer-to-peer learning, and ultimately, delivery of an ambitious global Theory of Change.

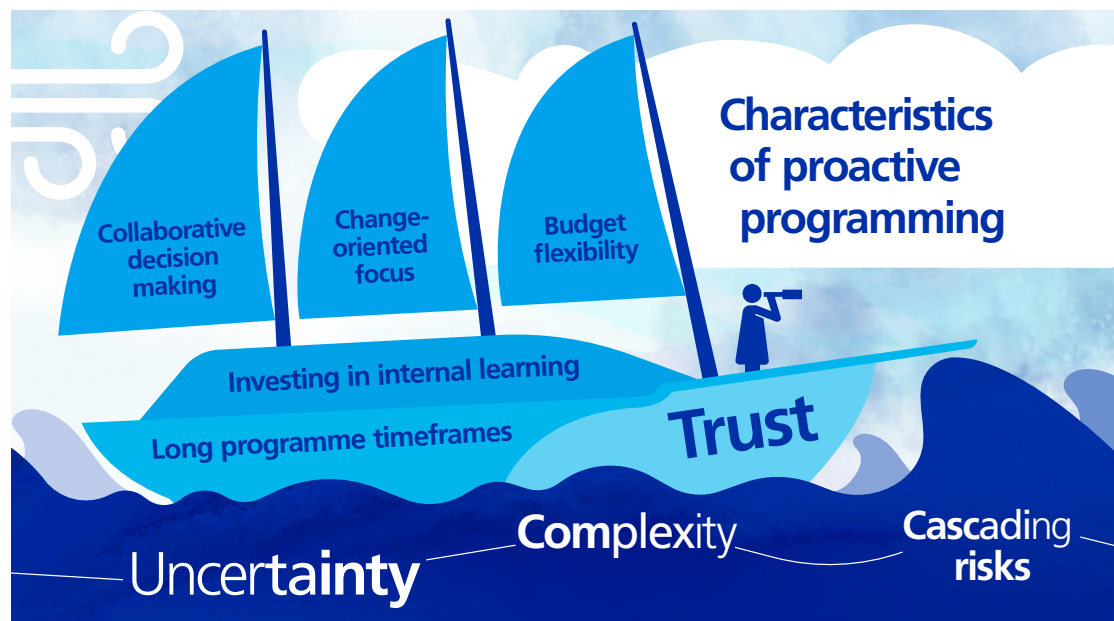
### 2.1 Alliance principles

The Alliance used a 'proactive programming' approach ([see Figure 4](#)) to support the development of contextually-grounded programmes that were also flexible and responsive to new opportunities, challenges, uncertainty, and learning. Proactive programming is explicitly forward-looking and thus places a strong emphasis on planning and decision-making for the 'what if's', not just the 'oh no's'. In doing so, it considers these possibilities not just as risks to be mitigated, but as potential alternative pathways to be optimised.



*Aquaculture farmers adapt to coastal flooding by implementing adaptive farming practices through the use of floating net cages © Mercy Corps Indonesia*

Figure 4. The Alliance's proactive programming approach



The Alliance proactive programming approach was enabled by the following key principles:

**Trust** Both the Alliance's donor, the Foundation, and Alliance partner organizations approached each other with trust. All partners, including the Foundation, took an active, collaborative role in setting up Alliance operations, further building trust. The Foundation trusted that partners would deliver what they were funded to deliver and Alliance partners trusted that the Foundation would not penalise them if things did not go as planned. This enabled budget flexibility and collaborative problem-solving.

**Long programme timeframes** In combination, Phases I and II of the Alliance amounted to 11 years of sustained, phased funding to advance flood resilience. Building flood resilience is a long-term endeavour that requires review, learning, recognition of changing conditions, and the adjustment of programmes accordingly. The Alliance's long-term funding model reduced the time spent in project start-up and close, thereby increasing programmatic value for money. It also offered the time needed to assess and adjust programming as needed. Long timeframes also meant that disruptive events were less stressful.

**Investment in internal learning** The Alliance approach to learning (and associated systems and processes for learning) supported learning for internal stakeholders. The Alliance used learning to improve Alliance decision-making, enable peer-to-peer learning, and understand progress against the global Theory of Change (ToC) including where the Alliance needed to rethink approaches.

**Collaborative decision-making** The Alliance was collaboratively governed, such that input from the full range of partner organizations was intentionally solicited across the full spectrum of Alliance engagement. Though this approach was at times time- and resource-consuming, it allowed for stronger synergies across Alliance work through capacity- and resource-sharing and shared learning. Zurich and the Foundation were also a part of this collaboration, which made it easier to maintain mutual trust and flexibility.

### Change-oriented focus

The Alliance's strategy was guided by a shared understanding of its goals, as articulated in an evolving global ToC that focused on achieving desired outcomes versus delivering specific activities. This focus was supported by Memorandums of Understanding which were flexible and goal-oriented, and provided Alliance organizations the opportunity to adopt widely varying approaches to achieve and generated the necessary information for shifting strategy if and when needed.

### Budget flexibility

Budget flexibility is critical for work that is outcome-focused, because it allows the work to adapt to changing circumstances and new learning. This was exemplified during the COVID-19 lockdowns, when the Foundation focused on what would be necessary to ensure the original objectives could still be reached, rather than how delays and work stoppages would negatively impact workplans. The result was the provision of costed extensions by the Foundation to Alliance partner organizations to ensure the ability of Alliance teams to stay active, find creative new ways to complete their work, and make progress that would otherwise not have been possible.

## 2.2 How the Alliance was set up to deliver

The Alliance's Phase II objectives were ambitious and its global ToC was complex ([see Section 3.1](#)). Delivery of the Alliance's shared goals and shared objectives, using common approaches and tools, was made easier through a self-governing, highly collaborative set-up.

The Alliance approach to collaboration went significantly beyond that of more common consortia approaches. The intent of this approach was to harness the diverse strengths, skill sets, and networks of the Alliance partners. The hope was to maximise Alliance impact via capacity- and resource-sharing, learning, problem-solving, collective messaging, and leveraging activities and experiences on the ground for broader flood resilience practice, policy, and spending shifts.

Alliance self-governance was enabled by flexible funding from the Z Zurich Foundation, itself highly unusual in the sector. Success required consistent, ongoing relationship building and a willingness to invest the time and effort to understand the different incentive structures, goals, and values of the various member organizations. Success also required patience to slow down when needed to ensure everyone moved together, and flexibility on the part of the Foundation as the donor to allow the work to adapt to the needs on the ground. However, this flexibility also allowed for adaptability and learning, both cornerstones of resilience. Thus, the Alliance was able to trial both new ways of working as well as new approaches.

Operationally, the Alliance was divided into five workstreams — advocacy, community programming, knowledge, research, and FRMC — and two governance bodies — the Team Leaders Forum and the Alliance Management Team ([see Figure 5](#)). The workstream structure was designed to support the Alliance in working towards a common set of objectives and goals. Each workstream had organizational representation, and where

Figure 5. The Alliance structure in Phase II



possible, country team representation. The workstreams and governance bodies together supported a distributed operational model designed to allow all partners to take responsibility for the delivery of Alliance objectives, with no single organization, including Zurich, being the sole ‘manager’ of the Alliance.

The primary goals and objectives of each of these groups are listed below.

#### Alliance Management Team (AMT)

Was composed of one designated representative from each Alliance member organization, and chaired by Alliance-dedicated staff from Zurich. The AMT reviewed progress against the Alliance vision and strategic objectives, set Alliance operational priorities, made strategic shifts as appropriate, and ensured effective deployment of resources. In the case of operational challenges or problems, the AMT was the final body for resolution.

#### Team Leaders' Forum (TLF)

Effectively acted as the Alliance project manager. This body was composed of the leaders of each of the above workstreams, plus one representative from each Alliance organization not leading a workstream. The TLF facilitated coordination across workstreams and work plans to support achievement of the Alliance ToC. The TLF was responsible for resolving cross-workstream issues, providing guidance and process direction, and reporting on Alliance outcomes and strategic and operational performance to the ALT on a semi-annual basis.

#### Research Workstream

Tasked with providing evidence to support resilience decision-making. This included analysis of the usability and validity of the FRMC ([see Section 3.5](#)), exploration of how the FRMC could be used in various contexts, and research on risk governance best practices and incentives.

## Advocacy Workstream

Worked to influence policy and spending for resilience across scales, with a particular focus on the global level. This included influencing the structure, focus, and amount of funding for resilience available through official development assistance (ODA), non-ODA, philanthropic, and private sector channels. The Advocacy Workstream also advocated for improved implementation of relevant frameworks, policies, and programmes at national and global scales.

## Knowledge Workstream

Built capacity for good internal knowledge management and uptake and facilitated the co-production of knowledge. The workstream developed platforms for internal tracking, sharing, access, and engagement with knowledge; developed a set of Flood Resilience portals<sup>4</sup> in English, Spanish, Bengali, and French for external knowledge sharing; coordinated in-person and virtual learning events for internal and external audiences; developed and launched an Alliance brand to raise awareness of the Alliance and ensure consistency of its external profile; and spearheaded the development of the 'Solutions Series', which documented successful flood resilience solutions developed and implemented by Alliance teams.

## Community Programmes Workstream

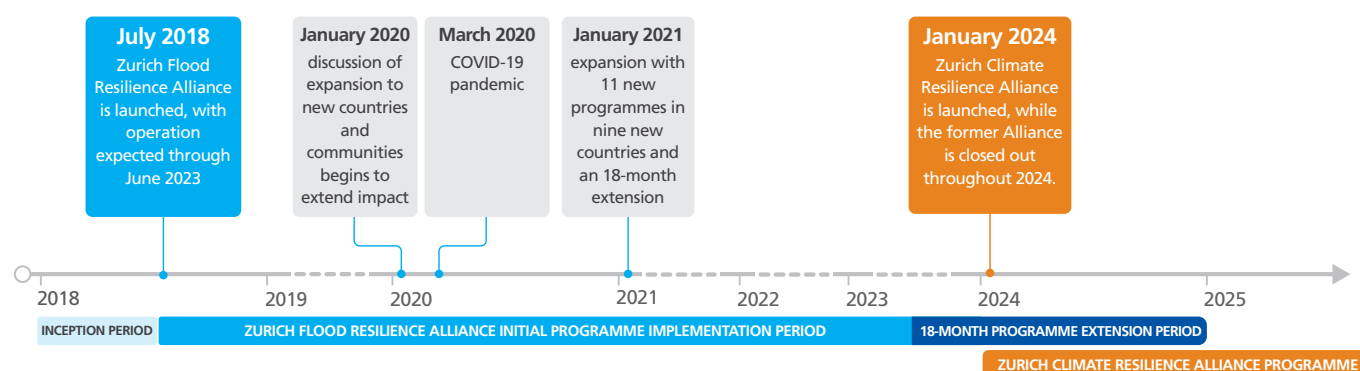
Coordinated the application of the Alliance flood resilience approach across all partner organizations and country programmes and provided support for project planning, intervention design and implementation, and monitoring and evaluation. The workstream also supported cross-learning between projects, countries, and organizations.

## FRMC Workstream

Facilitated the development and validation of a reliable, credible, and practical framework and tool for measuring flood resilience in communities, trained users on its use, and supported country teams to use the FRMC results to develop and prioritise resilience activities. The workstream also worked with the Research Workstream to validate the FRMC ([see Section 3.5](#)). Beginning in 2021, the workstream coordinated an expert review of the FRMC and incorporated feedback into a revision and expansion, developing the Climate Resilience Measurement for Communities (CRMC) framework and tool for flood and heat. This was further expanded by Monash University in 2023 to incorporate wildfire, and by ISET in 2024 to incorporate storms.

4 In 2024, the Alliance's flood resilience portals evolved into a single [Zurich Climate Resilience Alliance website](#).

Figure 6. Alliance Phase II timeline



# 3 Understanding resilience

## KEY TAKEAWAYS

- The Alliance developed a global Theory of Change (ToC) to illustrate how the Alliance would achieve its vision that *floods have no impact on people's or businesses' ability to thrive* through its objectives of improving flood resilience practice, policy, and spending.
- The Alliance's understanding of resilience was holistic and conceptualised via the 5Cs – human, social, physical, natural, and financial capitals – and the 4Rs – robustness, redundancy, resourcefulness, and rapidity.
- The Alliance operationalised resilience via its Flood Resilience Measurement for Communities (FRMC) framework and tool. Beyond its function as a community resilience measurement tool, the FRMC also functioned as a capacity-development and decision-support tool that supported building a shared understanding of resilience and designing evidence-informed community and advocacy programmes, respectively.
- The FRMC was formally validated, meaning that it can be used as a standardised measure of resilience.
- The FRMC was expanded based on research and programmatic experience and feedback.

## 3.1 Building flood resilience through improved practice, policy, and spending

In Phase II, the Alliance's vision for flood resilience was *that floods have no negative impact on people's or businesses' ability to thrive*. To do this, the Alliance focused on three objectives:



Climate-smart, risk-informed flood resilience practice becomes 'business as usual'.



Funding for climate-smart, risk-informed development with a focus on flood resilience is increased and equitably disbursed.



Laws, policies, and strategies for climate-smart, risk-informed flood resilience are implemented.

To achieve these objectives, the Alliance proposed conducting research, then using that research as the basis for improving key stakeholders' knowledge and awareness on flood risk and resilience; building and strengthening relationships; implementing evidence-informed community programmes; and conducting advocacy on key issues. These efforts

were intended to then lead to the adoption of good flood resilience practices, policy, and spending commitments, and improvements towards flood resilience.

Resilience was embedded into Alliance programming and its approach. The Alliance took a broad and holistic understanding of resilience, defining it as:

*“the ability of a community to pursue its development and growth objectives, while managing its flood risk over time in a mutually reinforcing way.”*

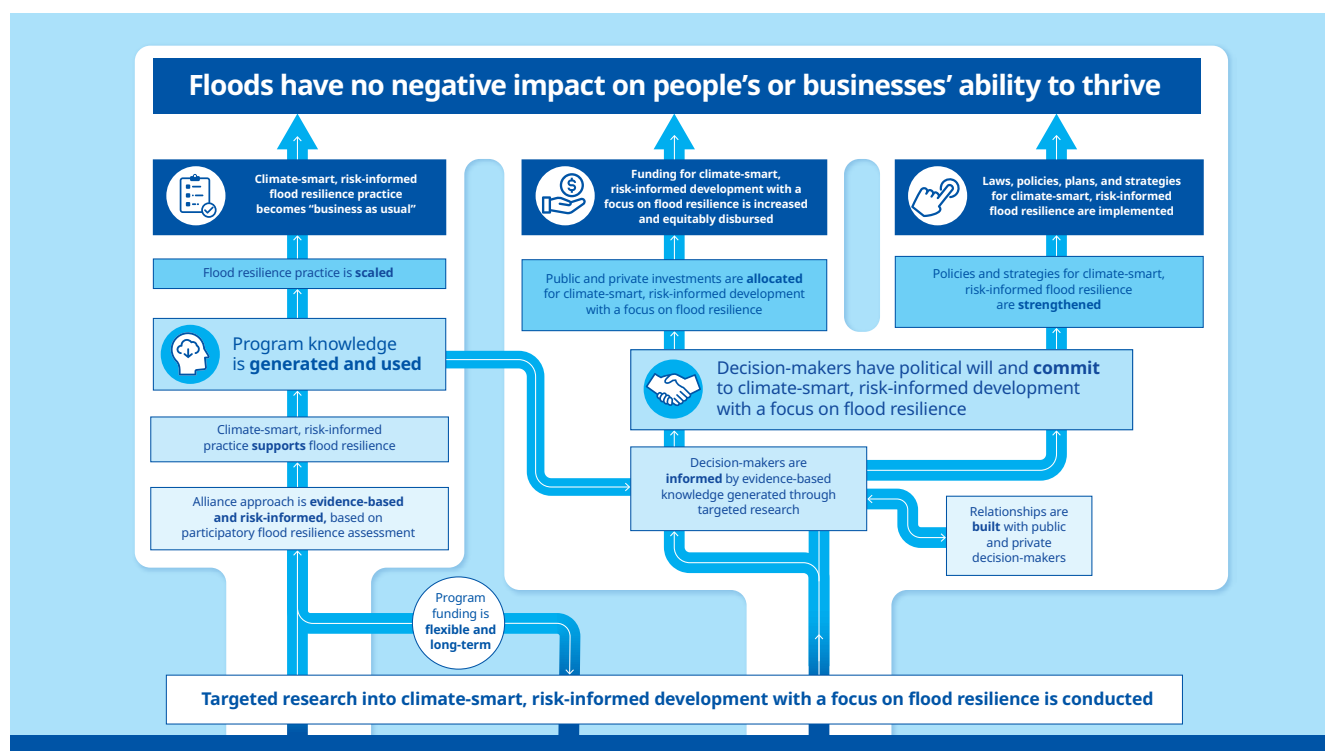
The Alliance’s pathways for change are conceptualised in its [global ToC](#) (see [Figure 7](#)). Attached to these objectives are the two KPIs introduced in [Section 1.3](#):

1. the number of people impacted through Alliance programmes, and
2. the amount of spending influenced by the Alliance towards flood resilience.

In parallel to the Alliance’s work on building flood resilience, there were two additional overarching goals focused on strengthening the Alliance’s enabling environment for achieving change:

- To continue to improve on the long-term, flexibly-funded approach started in Phase I. This phased and highly collaborative approach allowed for experimentation with new ways of working and ensured that the Alliance’s work was greater than the sum of its parts.
- To further refine, test, and validate the Flood Resilience Measurement for Communities (FRMC), a core element of the Alliance approach to building resilience.

Figure 7. Alliance global Theory of Change



## 3.2 Operationalising resilience via the FRMC

The FRMC is a measurement framework and tool. It was at the heart of the Alliance's country-level work and was fundamental to how teams built resilience in Phase II. The FRMC is unique as the only empirically-verified community resilience measurement tool available globally, and the only resilience measurement tool that measures multiple sources of resilience over time (Hochrainer-Stigler et al., 2025; Keating et al., 2025).

A survey conducted in 2014 for the United Nations Development Program (UNDP) concluded that *"no general measurement framework for disaster resilience has been empirically verified yet"* (Winderl, 2014).

Beginning in Phase I and continuing through Phase II and beyond, the Alliance worked to address this gap. In 2014, the Alliance developed a community flood resilience measurement framework, the FRMC, along with the tools to practically apply it; this was significantly revised and strengthened prior to the launch of Phase II. The FRMC framework and tool holistically evaluates assets, resources, and characteristics at the community level that contribute to building resilience.

In most countries of engagement<sup>5</sup> Alliance country teams implemented the FRMC in collaboration with communities and other local stakeholders to identify resilience gaps and priorities, then collaboratively designed and delivered programmes. This deep analysis of the community as a system, conducted prior to considering how to intervene, is critically different from historical approaches, which often conduct minimal analysis and rely on off-the-shelf solutions that do not fully reflect the local context.

Table 1. Implementation of the FRMC in numbers

|                     | Baseline  | Post event | Endline   |
|---------------------|-----------|------------|-----------|
| Countries           | 22        | 7          | 19        |
| Communities         | 325       | 66         | 293       |
| Population covered  | 1,071,603 | 157,900    | 699,259   |
| Households examined | 19,911    | NA         | 16,946    |
| Data points         | 2,562,689 | 48,575     | 2,224,409 |
| Graded sources      | 14,300    | 1,716      | 12,892    |

## 3.3 The value of the FRMC

The FRMC is valuable as an empirically verified framework ([see Section 3.5](#)) for collecting data on resilience changes over time. Understanding how different types of resilience change over time is crucial for designing effective interventions and policies.

<sup>5</sup> In an exceptional subset of Alliance countries - Costa Rica, Honduras, Indonesia, and New Zealand – the teams did not apply the FRMC and instead focused primarily on influencing policies and spending related to flood resilience. In addition to Alliance programmes, the FRMC was implemented by Habitat for Humanity in Cambodia and by Lutheran World Relief in Nepal and India.

## User testimonials

“

*The tool let us to know more information about the community – important information that is about different points of view. Before the tool we didn't see the risk management from the 5Cs, it was maybe viewed from natural and social, now with the tool we have different points of view.”*



Group discussions during T0 Study in Hue, Vietnam © ISET Vietnam Office

“

*For me I'm trying to visualise resilience through the different lenses. Previously if you had asked, I would have said it is very vague. After using the FRMC we can now, in a way, inform our policy makers, government etc. exactly what is flood resilience. The FRMC has made the understanding of resilience organized. When discussing resilience, you have to see it from the different lenses, that's how you narrow things down. It has informed me well. I now have a better understanding of the components that build resilience to floods.”*

“

*From my experience when we talk about the FRMC it is highly appreciated. Especially since it gives the community the opportunity to take part in their own resilience implementation plan. Although we are pro-participation, the fact that the FRMC enables communities to participate in the planning as well as implementation is appreciated.”*

***“The FRMC presents a structured approach to assess community flood resilience to support strategic investment in resilience strengthening initiatives”***

- Keating et al., 2017:  
Keating et al., 2025

Additionally, the FRMC supports resilience building in multiple ways beyond data and measurement, including as a decision support tool and a capacity development tool to promote systems thinking, design and deliver resilience programmes, and strengthen advocacy.

As a **decision support tool**, the FRMC enhances both community programming and policy change. The FRMC supports the identification of fit-for-purpose solutions by generating consistent, comprehensive data on community resilience gaps and strengths. Policymakers, development practitioners, and community leaders use these data to develop informed resilience strategies and interventions. The FRMC supports thinking that connects the knowledge generated to gaps through a systematic exploration of: 1) how gaps and strengths interact, 2) entry points for action, and 3) co-benefits of particular activities across a range of sectors to build resilience. Alliance teams have used FRMC data to obtain additional funding from external donors to expand and/or extend their Alliance programmes and scale out FRMC-backed resilience pilots. Organizations external to the Alliance have adopted and run the full tool themselves, drawn by its utility for developing evidence-informed programmes ([see Box 3](#)). Furthermore, local governments that Alliance teams have worked with have used FRMC data to inform their decision-making on Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).

The FRMC also functions as a **capacity development tool**, complementing an enabling Alliance structure that prioritises responsive internal learning to close knowledge gaps. By leading implementing organizations, communities, and local stakeholders through a structured learning process, the FRMC concretises the otherwise ‘fuzzy’ concept of resilience, and in turn builds stakeholder understanding.

For implementing organizations, this understanding fosters systems thinking which is fundamental to building resilience and supports informed decision-making.

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Figure 8. The multiple benefits of utilising the FRMC

## Flood Resilience Measurement for Communities...



Implementing partners develop a deep understanding of what it means to engage in a flood resilience building process by: exploring gaps and strengths across the range of sources of resilience and recognising the wide range of sectors involved in resilience; conducting analysis at a systems level; and identifying both co-benefits and maladaptive consequences of various activities.

For community members, governments, and local stakeholders, this understanding is a foundation for developing a shared vision of how resilience should be approached in a particular community, thus providing a platform for relationship building between local stakeholders. Stakeholder capacity to engage in and sustain successful resilience choices is also greatly enhanced.

Impact stories highlighting the specific, granular impacts on individual communities, regions and national efforts as a result of using the FRMC can be found in [Section 5](#).

Though the FRMC is resource and time intensive to apply, with teams devoting 3-6 months to its application, the above successes illustrate that the FRMC is worth the effort. Investing in a structured learning process aids resilience programming.

#### **BOX 4. MORE THAN A MEASUREMENT TOOL: THE FRMC AS AN INTERVENTION**

The FRMC process itself did more than measure resilience. Consistent with prior studies highlighting the resilience-building potential of participatory processes (MacKinnon & Derickson, 2013; Manyena, 2006), the FRMC process enhanced social and human capital in many communities. By encouraging inclusive dialogue, strengthening institutions, and building trust, the FRMC functioned as an intervention in its own right - cultivating the very capacities it aimed to measure. This dual function - assessment and capacity-building - is particularly significant in resilience science, which often separates “measurement” from “intervention” (Cutter, 2016). The FRMC’s integration of these elements represents a methodological innovation that blurs the lines between evaluative and developmental logics (Hochrainer-Stigler et al., 2025). In doing so, it resonates with “resilience-as-process” perspectives that emphasise the co-production of knowledge, agency, and collective action (Brown, 2016).



*A man uses a small bridge to cross a river in Mikemani Village, Tana River County in Kenya © Concern Worldwide*

## 3.4 How the FRMC works

The FRMC is made up of a conceptual framework and a data-collection tool. The conceptual framework of the FRMC comprises of the five complementary capitals (5Cs)<sup>6</sup> and four properties derived from resilience system-thinking (4Rs)<sup>7</sup>.

6 The 5C model from the Sustainable Livelihoods Approach adopted by the UK's Department for International Development, now the Foreign, Commonwealth & Development Office.

7 The 4Rs developed by MCEER, a multidisciplinary research center at the University of Buffalo.

### BOX 5. CONCEPTUALISING RESILIENCE IN THE FRMC

The FRMC uses an Alliance-developed conceptual framework to understand resilience through 5 capitals and 4 resilience properties (5C-4R).

Community resilience, or the ability of communities to prepare for, respond to, and recover from disasters and other shocks, is built on multiple interconnected foundations. These foundations, known as 'capitals', provide greater richness of data about a community's sources of resilience than any single metric such as average income. They include:

#### The five capitals (5Cs):



**Human** (education, skills, health).



**Social** (social relationships and networks, bonds that promote cooperation, links facilitating exchange of and access to ideas and resources).



**Physical** (things produced by economic activity from other capital, such as infrastructure, equipment, improvements in crops, livestock).



**Natural** (natural resource base, including land productivity and actions to sustain it, as well as water and other resources that sustain livelihoods).



**Financial** (level, variability and diversity of income sources and access to other financial resources that contribute to wealth).

The 4Rs are resilience properties that are understood to help people on their development path while providing the capacity to reduce risk and withstand and respond to shocks. They include:

#### The four properties of a resilient system (4Rs):



**Robustness** (ability to withstand a shock), for example, housing and bridges built to withstand a flood.



**Redundancy** (functional diversity), for example having many evacuation routes.



**Resourcefulness** (ability to mobilise when threatened), for example a group within a community that can quickly mobilise to convert a community center into a flood shelter.



**Rapidity** (ability to contain losses and recover in a timely manner), for example quick access to sources of financing to support recovery.

The FRMC 5C-4R conceptual framework is coupled with a tool that guides the systematic collection of community information across 44 indicators and provides a method to convert collected data into a quantitative set of resilience measures. The tool is a practical 'hybrid' software application comprising an online web-based platform for setting up the process and analysing results and a smartphone- or tablet-based app that can be used offline in the field for data collection. Collected data are used to help: 1) analyse the current situation and determine where in the local context resilience can be built pre-event to reduce potential loss of lives and assets during a hazard event; 2) measure if and how outcomes of resilience have manifested during and after a hazard event (via the post-event study); and 3) track changes in community flood resilience over time.

Collected data is uploaded to the online platform. Then, a team – typically composed of the FRMC implementing team, community members, and often local government representatives – compares collected data to pre-determined grading rubrics to grade each of the 44 sources of resilience on an A–D scale (A being best practice, D being poor). The grades each correspond to a number score to allow for aggregation. Graded results can be explored according to different 'lenses' including the 5Cs, 4Rs, seven sectoral themes, five steps of the disaster risk management (DRM) phases, and system or context level (community level or enabling environment). Exploration of graded results supports decision-making to enhance community resilience, based on the strengths and weaknesses identified in the FRMC. Part of this includes developing targeted interventions.

The FRMC is ideally run at least twice, before and after the implementation of interventions targeted at priority capitals. With each FRMC study, new grades are recorded. A comparison between the endline and baseline grades indicates how resilience has changed over time. Additionally, the FRMC includes a post-event study consisting of 29 indicators used to assess the impacts of a flood event if one occurs during the project period. A Post Event Review Capability study (PERC, [see Box 6](#)) – can also be conducted after a flood event, allowing for a deeper understanding of resilience strengths and gaps not just at the community level but across sectors and scales beyond the community.

### 3.4.1 Analysing FRMC results

Using the FRMC baseline and endline data, identifying post-intervention changes is obvious. However, interpreting the why of it is less straightforward given that there are many factors that can contribute to a change. Teams found the process of interpretation was in itself an act of resilience building. It encouraged systems thinking, fostered accountability, and guided more adaptive programming, guiding future action and deepening system understanding.

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*“The FRMC offers a replicable yet adaptable model for measuring and fostering resilience in ways that are participatory, evidence-based, and grounded in local realities. It stands apart from many top-down approaches by enabling communities not only to be assessed but to act as agents of change”*

- Keating et al., 2025



Interpretation of results involved:

- Identifying where instances of meaningful progress went unrecognised because they did not meet the threshold for a grade change.
- Identifying where an improved or decreased grade did not always align with the same change in actuality. A lower grade at T1, for example, could reflect improved community self-awareness and a more critical assessment, rather than a decline in resilience.
- Figuring out how to attribute a grade change to a particular intervention, due to the overlapping influence of interventions, external actors, and broader contextual factors such as new infrastructure or strong floods. This was not unexpected; it reflects the broader difficulty of establishing causality in complex adaptive systems.

Different teams adopted different strategies to manage interpretation. While some teams adopted rigorous strategies - such as the use of control communities - others relied on contextual knowledge and community narratives to interpret grade changes.

### 3.5 Validating the FRMC

The FRMC was developed to meet the need, identified by the UNDP, for an empirically validated general measurement framework for disaster resilience. The Alliance therefore wanted to show that the FRMC is usable as a standardised measure of community climate resilience. This meant demonstrating that it can deliver consistent results across different geographical and socioeconomic contexts, be useful to the field teams and communities that apply it, and provide outcomes indicative of community flood resilience. Thus, Alliance partner, IIASA embarked on a validation study of the FRMC.

Operationalising a complex, multi-dimensional concept like resilience in a measurable way involves trying to anticipate, in the absence of a disaster event, which set of community characteristics and indicators will best predict resilient post-disaster outcomes. The Alliance used the many attributes and systems that are documented to support or build resilience in developing the FRMC sources of resilience. The questions



the validation aimed to answer were whether the FRMC reliably measures the sources of resilience in a standardised way, whether the approach to that measurement is practical and usable for practitioners, and whether these sources of resilience contribute to improved resilience outcomes in the case of a flood event.

The validation process was complex, and relied on both qualitative, user-derived assessment and on statistical analysis of baseline FRMC data from 325 communities in 22 countries, endline data from 293 communities in 19 countries, and FRMC post-flood event studies from 66 communities in seven countries.

### 3.5.1 The validation process

Based on the results of the statistical analyses and the qualitative, user-derived assessment, the IIASA team concluded that the FRMC can be used as a standardised measure of resilience (Keating et al., 2025; Chapagain et al., 2025; Guimaraes et al., 2025; Hochrainer-Stigler et al., 2025). This section provides an overview of the validation process conducted by IIASA that allowed them to come to this conclusion.

The validation process examined whether sources are being measured in a standardised way; considered issues of usability and practicality; and explored which sources of resilience in the FRMC make a difference in the event of a flood. The process for assessing standardised measurement and practicality was structured around three key pillars: 1) **validity**, 2) **reliability**, and 3) **usability** and is described below. The process for determining which sources make a difference for resilience is described in the '[Realised Resilience](#)' section.

**Validity** refers to whether the sources of resilience actually measure community flood resilience. The IIASA researchers explored four types of validity – face, content, external, and construct – using multiple types of evidence.

- **Face validity**: refers to whether the FRMC aligns with resilience practitioners' and communities' understandings of what constitutes community flood resilience. Face validity was assessed primarily via interviews with Alliance team members,

interpretation of user feedback provided during peer workshops, analysis of user comments inserted into the FRMC tool, and drawing on the 'source relevant' and 'grading confidence' tick-boxes filled out by users when grading a source. The research team found that community and practitioner understandings of what constitutes community flood resilience matched with what is presented in the FRMC. Practitioners considered all 44 of the FRMC sources of resilience to be important for strengthening community flood resilience, and did not identify any major gaps or missing sources. From this, it was concluded that the FRMC has face validity.

- **Content validity:** refers to how well the tool covers all the different aspects of the concept of resilience. It was assessed via an extensive literature review; expert design input from practitioners, disaster risk experts, and risk engineers; and an extensive peer review process (Keating et al., 2017). In sum, these establish that the FRMC is solidly grounded in widely accepted concepts, frameworks, and models, giving the FRMC content validity.
- **External validity:** examines whether the FRMC is applicable across different types of communities. Establishing external validity was based partially on face validity and partially on a statistical analysis of the impact of community characteristics (such as location, community type, poverty level, socio-demographic statistics, etc.) on FRMC outcomes. The FRMC was externally validated through its successful application by Alliance teams in 20 countries. Statistically, external validity was assessed in combination with construct validity.
- **Construct validity:** assesses the construction of the FRMC and whether it measures what it is supposed to be measuring. It was assessed using statistical validity tests between the sources of resilience and the theoretical framework. Both external and construct validity were tested using clustering techniques and principal component analysis. A detailed statistical analysis can be found in Chapagain et al. (2024a).



*Local committee members presenting the findings of FRMC in the Sweimeh community, Jordan © Mercy Corps*

The research team found, among other things, that resilience capital grades strongly correlated with communities' socio-economic characteristics, including poverty, female education levels, and income from remittances, which aligns with the findings of an extensive body of development and disaster risk management work, indicating both external statistical validity and construct validity.

**Reliability** refers to whether the FRMC tool and process measure the same thing when applied by different grading teams, at different times, and in different communities. Reliability was assessed via analysis of both the raw observation data and grading data.

Several statistical tests were used, examining:

- **Inter-rater reliability** - the consistency of grade assignment using raw FRMC data across grading teams. Collected raw data was compared to corresponding grades of the sources of resilience across the baseline study sample to explore whether different graders use similar raw data to come up with similar grades. The research team found inter-rater reliability to be acceptable, although they also found that grades are more consistent when the source grading requires less subjective judgment.
- **Test-retest reliability** - the consistency of grade assignment using raw FRMC data over time (i.e. baseline vs. endline). This was measured using Cronbach's Alpha test, a statistical test used to measure the internal consistency of a set of items or questions. The results confirm that the raw FRMC data results in consistent grading across time.
- **Internal consistency reliability** - the consistency of the sources of resilience between communities. Internal consistency was also measured using Cronbach's Alpha test. The results confirmed that the sources of resilience within each capital are closely related and can be combined to measure the five capitals identified in the FRMC.



Community consultation for selection of Community Advocacy Champions in Atthaniphanta, Krishnapur Municipality, Nepal © Dirgha Ojha, Social Mobiliser, NEEDS



### 3.5.2 The implications of a validated FRMC

Successful validation of the FRMC opens the door to more detailed exploration of how best to build resilience. The FRMC was expanded to include additional climate hazards in 2022. It is now called the Climate Resilience Measurement for Communities (CRMC). Thus, any insights remain pertinent.

The IIASA team is now researching the best ways to strengthen individual or groups of sources, and how sources are related. There are also opportunities to conduct more detailed explorations in single country contexts to gain a holistic understanding of the mechanisms of resilience building. In Malawi, IIASA conducted a deep dive analysis with the Concern Malawi Alliance team, and found close relationships between capitals.

IIASA's findings highlight the interconnected nature of not just individual sources of resilience, but also of the capitals. In particular, social capital influences all other capitals. This points to the importance of building resilience via interventions designed to strengthen inter-capital interactions. IIASA's findings also indicate that the tool can itself be transformative. The FRMC distinguishes itself from many existing resilience frameworks through its systems-based, participatory, and iterative approach, which not only assesses but actively builds resilience within communities. Under the Zurich Climate Resilience Alliance, this research on resilience, and the potential of the FRMC to support that, will continue and deepen.



Community brigades in Tabasco, Mexico conduct training on early warning systems © Mexican Red Cross

## BOX 6. EVIDENCE DRIVEN LEARNING USING THE POST-EVENT REVIEW CAPABILITY

The Post-Event Review Capability (PERC) is a methodology created by the Alliance to review why hazard events become humanitarian disasters, understand what happened and why, and identify entry points for building or strengthening resilience. PERCs have been conducted across the globe after floods, wildfires, and tropical cyclones, and applied in both urban and rural settings. Individual study results include practical recommendations for action, while multi-PERC reviews identify common strengths and gaps applicable to virtually any context.

Though initially focused on floods, the focus of PERCs was broadened to include wildfires (Tasmania, Australia; California, United States; and Ft. McMurray, Canada) and landslide and wind damage from cyclones (Cyclone Idai; Malawi, Mozambique, and Zimbabwe). The range of contexts and types of flood events studied was also broadened, including cyclone-generated severe flooding in Tabasco, Mexico; intense rain-induced, widespread flooding in Senegal; extreme monsoon seasons in Bangladesh; and heavy rainfall causing devastating flooding across western Europe. Each of these disasters was distinct in the way they manifested, but they provided insights into what worked well and what could be learned to reduce future risk.

At the beginning of Phase II of the Alliance, the PERC was already well-established as a tool. However, not all Alliance teams were familiar with the methodology. In 2020, the Alliance began a more targeted effort to better integrate the PERC methodology into the Alliance and to understand how PERC lessons and learning could complement and deepen FRMC data. By the end of Phase II, PERCs had been conducted in nine Alliance countries – Bangladesh, Malawi, Mexico, Mozambique, Nepal, Peru, Senegal, Vietnam, and Zimbabwe. Most of these were implemented in collaboration with or delivered primarily by Alliance country teams. Additionally, Alliance teams integrated PERC findings into their community programmes and advocacy.



Alliance teams leveraged PERC at the country-level to:

- build relationships with new stakeholders and strengthen current relationships;
- provide deeper insight into the issues and the actors involved in disaster events and the policy and practice opportunities that emerge following disasters;
- obtain a broader picture of hazard event impacts and opportunities for post-event resilience action in combination with FRMC post-event study results;
- inform programme development; and
- develop policy briefs, engage decision-makers, and advocate on key issues.



*Damage from Cyclone Kenneth in the province of Cabo Delgado, Mozambique © Matthew Carter, IFRC*



In Phase II, the Alliance also continued to conduct [PERCs](#) as stand-alone research efforts. These efforts, across a variety of different contexts, resulted in a body of lessons learned from pluvial and riverine flooding, hurricane/cyclone-associated flooding, and wildfires. These revealed consistent key findings of what goes wrong to make hazard events turn into disasters, as well as areas for improvement across hazards and contexts (e.g. in EWS risk awareness, recovery, etc.).

The Alliance leveraged PERC learnings by incorporating them into key messages, creating a [database of PERC recommendations](#) on the Alliance website, and developing several PERC medley reports summarising these findings. The PERC methodology won an Outstanding Achievement Award from the National Hurricane Conference in the United States in 2019.

# 4 Measuring results and impact

## KEY TAKEAWAYS

- The Alliance's Monitoring, Reporting, and Learning system provided a key oversight and learning function for the Alliance. It tracked progress against Alliance Key Performance Indicators (people impacted and spending influenced), the change Alliance teams were achieving, and how they achieved that change.
- Over the course of Phase II, the Alliance moved away from counting people reached to counting people impacted. Developing an approach to counting people impacted was iterative and took time. By the end of Phase II, Alliance teams were reporting people impacted as a result of both community programming and advocacy.

### 4.1 The Monitoring, Reporting, and Learning system

The Alliance's Monitoring, Reporting, and Learning (MRL) system tracked internal progress and change against the global Theory of Change (ToC). It captured:

- the number of people impacted by Alliance community programmes and advocacy;
- the amount of funding influenced by the Alliance towards flood resilience;
- learning on how change was being achieved;
- contextual factors constraining and enabling change;
- knowledge uptake statistics; and
- learning on what worked and did not work for building resilience via community programming, knowledge, and advocacy.

The MRL reporting system consisted of both narrative and quantitative reporting. Alliance teams submitted reports annually, and follow-up interviews were conducted by the ISET MRL team with all programme teams to deepen understanding of their reporting and their exciting and compelling achievements.

The ISET MRL team analysed the MRL data using a mixed qualitative-quantitative approach. The MRL team identified cross-Alliance patterns and progress and drew attention to areas of emergent learning for the benefit of resilience programming. From this analysis, the MRL team produced [two types of reports](#), one on learning and one on impact and progress.

The diversity of scales and types of Alliance programming and interventions, coupled with an atypical focus on change and learning (as opposed to the more typical activities

and progress), necessitated an expansive, atypical MRL system. Additionally, the system underwent revisions to meet emergent information needs and to streamline reporting and data analysis. Alliance teams initially found that using the MRL system came with a steep learning curve and significant time investment. However, it also turned out to be an opportunity to upskill. With significant, consistent support (one-on-one support, group trainings, etc.) throughout the course of Phase II, teams were producing strong reporting focused on change, impact, and learning by the last two years of the Phase.

## 4.2 Measuring impact

### 4.2.1 Counting people impacted via community programmes and advocacy

Initially in Phase II, the Alliance counted direct and indirect beneficiaries. This largely entailed totalling the numbers of people who directly and indirectly benefited from Alliance community programming efforts such as awareness raising campaigns, trainings, and community interventions. This was considered a measurement of reach.

In 2020, the Z Zurich Foundation challenged the Alliance to count a different metric: how many people had the Alliance's work impacted? Measuring impact is different from measuring direct and indirect beneficiaries. Impact seeks to understand the quality or depth of the changes in people's lives. The development and humanitarian sectors typically measure reach, not impact. Rising to this challenge resulted in a four-year learning journey.

To measure the impact of Alliance work on peoples' lives, the Alliance drew inspiration from the [Business for Societal Impact Framework](#), originally developed by the London Benchmarking Group. This helped the Alliance think about how to meaningfully and credibly count, assess, and track its impact.

The Alliance's first step was to distinguish between the impact of Alliance community programming with respect to direct and indirect beneficiaries, or what the Alliance eventually termed 'community impact', and 'advocacy impact'. The community impact measurement is closely related to, but a deeper version of, the common measurement of counting direct and indirect beneficiaries, or people or households reached by programming. Advocacy impact goes beyond counting programmatic reach. It considers measuring the impact of good practices, policy, and increased funding.

#### 4.2.1.1 Counting community impact

Alliance country teams developed definitions of impact through community programming. Their definition of impact was tailored to their specific work and context. These definitions generally assumed that a proportion of the community would be impacted, and that impact would be reflected in changes of awareness or behavior. Some teams, however, tied the



*This type of smart flood gauge, installed in Quang Tho and Quang Thai Ward, Vietnam, can send warning signals and automatically connect to the national hydrometeorological data system © Hue DRM Office*

counting of impact to depth of engagement or new access to a critical service like an early warning system (EWS).

Based on these definitions, each team developed monitoring and evaluation tools – such as impact surveys – to collect impact-relevant data. Such data can only be collected after interventions are complete and communities have had time to notice the changes in their resilience. For most of the Alliance teams, this meant impact surveys were run at programme close-out in 2023 and 2024. These were the first years in which Alliance country programmes were able to report people impacted numbers.

#### 4.2.1.2 Counting advocacy impact

The goal of the Alliance was not just to build the resilience of individual communities, but to also scale good practices, influence policy, and increase the funding going toward activities that build resilience. Thus, the Alliance saw the opportunity to measure the number of people impacted via successful advocacy.

Measuring the impact of advocacy work – such as the adoption of new policies or practices – by counting individual beneficiaries is an evolving issue for the humanitarian and development sectors. The concept is notoriously difficult to enumerate – particularly with rigour, defensibility, and credibility. Advocacy successes take time, their cause and effect can be long and complex, and they are typically achieved through collaborative efforts and complex funding arrangements. This makes attribution of efforts complicated. Most donors do not typically ask for such quantification; as a result, there is also little general guidance available on how to go about it.

The Alliance settled on a rigorous, conservative, yet context-driven approach to advocacy impact. Teams began with an assessment step where they reviewed their advocacy wins to understand:

- Can the impact be clearly defined for this success?
- If so, is it clear which individuals have been impacted?
- If it is clear, can it be counted, and does numeric data already exist that could be used in this quantification?

If Alliance teams answered yes to all three questions, then they took the next step of developing an approach to measure the number of people impacted. Because of the breadth of activities undertaken by Alliance teams, different methodologies were developed for each advocacy success. Each methodology took into account the complexities of collaboration relevant for that team's particular success. This level of rigour meant that the Alliance had a high level of confidence that the number of people benefiting from advocacy was neither over- nor double-counted; it also meant that teams with wins that were less tangible, such as the impact of a national policy change, remained uncounted. Indeed, Alliance teams largely counted people impacted by advocacy wins at the sub-national level, due to their tangibility and the relative ease of establishing Alliance contribution to those wins.

As with community impact, it was only towards the end of Phase II that teams reported advocacy impact. The rigour demanded by the Alliance approach meant that only just over half of the Alliance country programmes counted people impacted as a result of advocacy work. Although the KPI was introduced three years prior to the close of

Phase II, the majority of this impact actually represents six to ten years of consistent, strategic engagement.

#### 4.2.2 Counting spending influenced

For spending influenced, Alliance teams reported annually on any money formally committed (e.g. a specific amount communicated in a press release or during a global policy conference), allocated, or disbursed that had positive implications for flood resilience. Thus, money towards climate change adaptation, disaster risk reduction and management, and Alliance programmes and approaches was counted. Sources of this money included government, donors, and organizations.

To take into account the collaborative nature of advocacy, individual spending wins were weighted by a contribution score provided by Alliance teams – with 1% meaning that the Alliance played a very minor role or was just one voice in a sea of voices, and 100% indicating that the Alliance was wholly responsible. So, if a team claimed 30% contribution towards a spending win, 30% of the amount of money reported under that win would be counted towards the Alliance's target. Determining a contribution score was subjective, but it allowed the Alliance to take a conservative approach in claiming success under its USD 1 billion target. Restricting the amounts in this way also helped the Alliance ensure that global advocacy on spending towards flood resilience, with its typically higher dollar amounts, was not prioritised over national and sub-national advocacy.

The final spending influenced figure reflects spending wins that were reported into the MRL system, and does not account for amounts that were later retracted by governments or funders.



Emergency response committee in Lalanje River, Malawi © Jon Hozier-Byrne, Concern Worldwide

# 5 Key achievements of Phase II

## KEY TAKEAWAYS

- Alliance global-level advocacy contributed to commitments to double adaptation funding to developing countries and the formation of global initiatives on Loss and Damage.
- At the country-level, through country programmes and advocacy, Alliance teams supported:
  - ▶ The empowerment of communities to implement their own resilience practices and advocate for their resilience needs;
  - ▶ inclusive decision-making such that communities are better included in local decision-making processes and there is greater coordination between government and communities;
  - ▶ the integration of local resilience realities and priorities into policies and plans;
  - ▶ the broad adoption, scaling, and replication of resilience good practices and Alliance-developed tools by communities, governments, and donors;
  - ▶ increased community and local government funding for resilience;
  - ▶ infrastructural improvements that reduce disaster risk, such as early warning systems, flood protection, and water, sanitation, and health systems; and
  - ▶ strengthened livelihoods that are more climate resilient and also have provided communities with additional income to invest in disaster risk reduction, preparedness, and recovery.

## 5.1 Achievements

Over the course of Phase II, the Alliance, in collaboration with a range of actors, successfully influenced global dialogues and national and sub-national commitments to fund adaptation. Key wins that Alliance advocacy contributed to were the commitment to double adaptation funding to developing countries via the formation of the Glasgow Climate Pact at COP26<sup>8</sup> – described as a ‘step-change’ by the Global Center on Adaptation, the Glasgow Climate Pact was the first quantified commitment for adaptation finance – and the formation of global initiatives on Loss and Damage.

<sup>8</sup> The Glasgow Climate Pact urges developed country Parties to at least double their collective provision of climate finance for adaptation to developing country Parties from 2019 levels by 2025.

Alliance engagement in this influencing effort was multi-pronged, including:

- Commissioning research on the evidence and analysis of the gaps in adaptation finance and how it is spent, including the '[A Fair Share of Climate Finance](#)' report;
- Interacting regularly with national governments championing issues related to climate adaptation finance and Loss and Damage;
- Emphasising the [multiple dividends](#) of adaptation investment;
- Supporting Alliance country team representatives to attend, present, and discuss their challenges and needs at international meetings;
- Leading the BOND Development and Environment Group (now the Climate Action Network UK) – a group of NGOs that lobbied the UK government on climate issues; and
- Steering the Friends of Adaptation and Loss and Damage Group – an informal technical contact group of civil society and the UK presidency team.



*The Alliance's side event exploring humanitarian perspectives on loss and damage at the Bonn Conference, 2023 © ZFRA*

Global

## Impact story



*Alliance partners were present at COP27, hosting side events and sharing the latest Alliance research © Alliance*

During COP27 in 2022, the global community agreed to set up a new fund for Loss and Damage (L&D) — the consequences of climate change that exceed people's ability to adapt. This was a significant step forward for the globe's most vulnerable people who are at the frontlines of climate action and paying for climate disasters.

Developed countries have historically been reluctant to address L&D, despite the consistent and increasingly urgent requests of developing nations. For many years, the Alliance has worked to bring otherwise invisible climate vulnerable perspectives to the global stage by conducting advocacy grounded in research that draws on lived community experiences. Alliance research, including the open-access '[Loss and Damage for climate change: Concepts, methods, and policy options](#)' book with over 1 million reads that links global and local insights, and policy briefs like '[A](#)

[fair share of climate finance? The adaptation edition](#)', coupled with concrete evidence of community perspectives, proved effective and influential on addressing L&D.

The Alliance used multiple channels of pressure on the global community, including working with leading climate change scientist and advocate, the late Dr. Saleemul Huq, to include L&D in the IPCC's '[Global Warming of 1.5 °C](#)' report. An additional global influencing entry point included participation with an expert group in the UNFCCC. Many Alliance teams engaged directly with national governments to advocate for L&D as an agenda item in COP27. In Indonesia, Alliance evidence on local climate risk and impacts was integrated into the national COP position statement on L&D. Teams with access worked to influence the COP26 Presidency, while others influenced NGOs to work in concert with Alliance organizations.

The Alliance's long-term engagement with the Scottish government was particularly consequential. Over several years, the Alliance lobbied the Scottish government to push for L&D finance. The Alliance was invited to present at the 2022 Scottish Loss and Damage Conference, sharing locally-grounded research and an Alliance framework illustrating the different components of L&D that needed to be addressed. The Scottish government took up this framework, which shaped their strong leadership in mobilising the global community around L&D at COP27.

## 5.2 Country level achievements

This section provides an overview of the main outcomes achieved by country teams followed by illustrative impact stories.

### 5.2.1 Community-led action

Alliance teams strengthened communities' capacities to build and advocate for their resilience through embedding resilience skills, knowledge, and practices in communities. Underlying this success is the FRMC process, through which Alliance teams, communities, and other local stakeholders were able to develop a shared understanding and evidence base of community resilience gaps and priorities. These efforts led to new behaviours and paradigm shifts in how communities operated before, during, and after disasters.

Community-led action manifested in the following ways:

- **Communities advocated to the local government for their resilience needs:** In various countries, communities began to advocate to their local governments for investment in solutions (e.g. towards nature-based solutions and small-scale flood protection infrastructure), for materials (e.g. seeds and livestock vaccinations), or for technical support for resilience needs. In many cases, communities were successful. These successes were achieved through a combination of:
  - ▶ generating data on resilience needs and priorities via the FRMC and other complementary research;
  - ▶ strengthening and leveraging community advocacy capacity; and
  - ▶ strengthening community access to local government.
- **Communities proactively implemented resilience actions:** This was as a result of greater community awareness and knowledge around resilience, strengthened skills and capacities, and joint implementation of community programmes with communities. Observed examples include:
  - ▶ community provision of in-kind support (e.g. labour and materials) for nature-based solutions, building resilient housing, and asset protection;
  - ▶ communities sustaining critical infrastructure (e.g. for EWS and for flood mitigation); and
  - ▶ communities creating and maintaining their own community-based groups for disaster risk management and resilience.
- **Communities self-organized during hazard situations to support preparedness, response, and recovery:** Several communities self-organized to implement preparedness, response, and recovery actions outside of government support and in collaboration with government. Key to this achievement was the establishment of community-based groups, training communities on response, preparedness, and DRR actions, and establishing early warning systems that the communities could understand and use. This self-organization built on the capacity-strengthening, increased knowledge, and improved social cohesion facilitated by Alliance teams.

5

## Supporting community learning and advocacy with the FRMC

Mercy Corps Jordan

# Impact story



FRMC data collection with community member in Ma'in, Madaba © Mercy Corps Jordan

Mercy Corps Jordan used the FRMC to support its communities' learning and advocacy efforts, resulting in community implementation of project interventions. The FRMC helped communities identify flood-related issues and priorities including the establishment of an early warning system, improve infrastructure related to flood management, increase vegetation coverage, and conduct targeted awareness raising campaigns. Mercy Corps also provided advocacy training, equipped community members with policy research and the skills to write policy papers, and connected them with networks and platforms to engage and lead in policy and planning efforts. Members of each community prepared advocacy plans and policy papers using FRMC evidence and then proposed recommendations to local policy-makers in a series of policy dialogues organized by Mercy Corps. The dialogues increased government support for community-driven flood resilience measures, with Governorate Councils prioritising community engagement in their agendas.



Mapping session with local community in Shobak, Maan © Mercy Corps Jordan

Concern Bangladesh

## Impact story

Communities living in the floodplains of Bangladesh are particularly vulnerable to flooding and erosion from intensifying weather events, and have typically depended on relief to survive and recover.

Concern Bangladesh supported communities to self-organize to better protect themselves and advocate for government support to build and invest in resilience. They armed communities with evidence and knowledge of resilience needs and opportunities generated through the FRMC, which communities then used to directly approach the government and suggest practical investments and activities. Having been deliberately included from the beginning, local officials could see how their support led to visible improvements in community well-being. As a result, the government invested in a variety of resilience activities, including infrastructural projects, livelihood skills building and support, and supporting income generating activities through making loans available.

Additionally, Concern's model of empowering communities and brokering relationships between communities and government – rather than Concern advocating on behalf of the communities – provided a blueprint for building long-term sustainable change that contributes to flood resilience.

*"Earlier we never thought of demanding anything from Union Parishad. We were afraid to communicate. Because of this committee, now jointly we approach the Union Parishad to raise our needs, and we are being heard. Union Parishad constructed three wooden bridges in our village, benefiting 2,500 people."*

- Ms. Mallika Khanam, Secretary of the Charkhorda Community Resilience Action Group Committee in Bangladesh



*In Nobabganj, Sundarganj, the Union Parishad has issued a forecast regarding the rising water levels in the Teesta River, following several days of heavy rainfall. Mohammad Dukhu Mia (38) was the first to take action, spreading the news throughout the community and raising awareness among residents and to prepare to face the possible disaster © Saikat Mojumder, Concern Worldwide*



*The sun is about to set and Ashinur Begum (35) pauses on her way home, Vati Kapasia, Kapasia, Sundargarj. The mighty Brahmaputra River, relentless and unforgiving, continues to devour the land inch by inch, swallowing up homes and memories alike © Saikat Mojumder, Concern Worldwide*

## 5.2.2 Inclusive decision-making

As a result of Alliance programming, decision-making, particularly at the local and sub-national levels, became more inclusive in many Alliance locations. This included:

- Greater community engagement in decision-making, such that community resilience priorities were integrated into local policies and plans. Alliance teams also facilitated the inclusion of specific marginalised groups (e.g. youth, women) in decision-making processes.
- Greater community access to local government representatives and local governments increasingly working with communities to manage disaster risks (as discussed in [Section 5.2.1](#)). This resulted in the integration of community-based groups into civil protection structures in many Alliance countries. Local governments also provided communities with additional, unanticipated support during flood events due to improved community-government relationships and knowledge of local realities and needs.
- Greater cooperation and new ways of working between government entities and local stakeholders, primarily at the sub-national and local levels. Alliance teams in some countries set up multi-sectoral stakeholder platforms to co-generate research on gaps in disaster risk governance and co-develop policy recommendations, strategies, and plans.

*"We are happy as women to be a part of this important body [DRR Group] in our community. In the past, only men were in these committees, but today we are part of the decision-making processes and advocating for gender transformation. Now we have facilities for separate evacuation centres that help to reduce sexual violence incidences which are common during period of disaster."*

- community member from Practical Action Zimbabwe's project area



Community participation is important for the reporting and care of water level measurement stations that form part of the Chamelecón River's early warning system © Jefferson Mejía, Honduran Red Cross.

IFRC and Honduran Red Cross

# Impact story



*(Top) Relationships between Honduran Red Cross volunteers and municipal actors is key to strengthening the collaborative work of the Alliance for Flood Resilience. (Bottom) The Maya Canal reduces flood risk in the city of La Lima, Cortés. The Alliance developed evidence to advocate for legal regulations for flood risk reduction © Jefferson Mejía, Honduran Red Cross.*

Based on its extensive experience in risk management, humanitarian management, and community-based work, the Honduran Red Cross identified the need for strengthened DRM coordination, information, and laws. Leveraging its significant local- and national-level connections, the Honduran Red Cross created the Flood Resilience Alliance in Northern Honduras (the Advocacy Alliance), consisting of key local DRM actors (communities, municipal representatives, technical institutions, and local organizations) from three flood-prone municipalities from the Sula Valley.

The members of the Advocacy Alliance co-generated a research study on the legal landscape of DRR and were trained on advocacy skills to strengthen disaster laws. The Advocacy Alliance also acted as a convening space for national government actors, municipal authorities, and private enterprises to foster new partnerships. As a result, actors are now working together, increasing access to decision-making processes. Municipal strategic guidelines for flood risk reduction have been changed to account for the full DRM cycle. The Advocacy Alliance also influenced the municipalities to prioritise structural and non-structural measures for DRR that reflect municipal technical and financial capacities, local development needs, and the National Risk Management Policy. Given the success of this network, the Alliance was extended to two neighbouring departments.

Marlene Sosa, a community member from one of the three Sula Valley municipalities, belongs to a local group of women who have pioneered important community projects. In 2021, Marlene participated in an advocacy workshop led by the Honduran Red Cross. Marlene expressed that the tools she learned from this workshop supported her and the other women leaders in her community to prepare and advocate for a plan for a flood protection solution that was supported by the municipality.

Practical Action Peru

## Impact story

A citizen science network formed by Practical Action Peru – the [Participatory Rainfall Monitoring Network](#) in the Rímac River basin – has become an essential actor for enhancing community resilience and risk management efforts in the Rímac River basin. The Network engages communities in collecting valuable rainfall data and collaborates with Peru's national meteorological agency, SENAMHI, in research efforts, creating an independently functioning bridge between local knowledge and scientific expertise.

Practical Action began by establishing a network of community volunteers and training them on the use of simple, yet effective, rainfall monitoring equipment, which they used to collect data that was then shared with SENAMHI. This data improved local flood predictions and supported flood response planning. For example, in February 2019, three participatory network volunteers in Chacacayo recorded significant local rainfall that had not been measured by the official rainfall measurement network. This exposed a data gap. This and similar results elsewhere have facilitated ongoing dialogue between communities and national agencies, ensuring that local insights are integrated into the creation of more accurate disaster risk management strategies.



Rainfall Monitoring Network volunteer using manual rain gauge in Peru © Practical Action Peru



Meeting between Practical Action and Senamhi teams in Cusco, Peru © Practical Action

### 5.2.3 Integration of local resilience realities and priorities into policies and plans across scales

At the local and sub-national levels, Alliance teams supported the integration of data and recommendations from Alliance research, including the FRMC and other studies, into local plans and policies. Drawing on local research on resilience and disaster experiences also supported successes at the national level, despite being a more challenging space to engage. Alliance teams influenced the integration of resilience concepts, *ex ante* action, and commitments to engage more with communities into key DRM policies. The overall result has been government adoption of Alliance resilience good practices and increased local investment in resilience, particularly at the local and sub-national levels.

Governments also took up tools developed by the Alliance that support governments to make evidence-based and locally-grounded decisions. The tools that were easily applicable and locally relevant were most likely to be taken up, including governance gap assessment tools and mapping tools and databases supporting DRR, preparedness, response, and/or recovery.

*"The programme allowed us to identify where we can make changes to correct and strengthen risk management. These modifications are urgently needed because we are on the first line and must be able to answer to communities. More knowledge and constant learning are important for the people and for us in the municipal emergency committee."*

- Helen Acuna, Municipality of Siquirres, Costa Rica



Lowestoft 2013 flooding © LSE

Practical Action Nepal

## Impact story



*Orientation on Index Based Flood Insurance process to local governments and cooperatives in Geruwa Rural Municipality, Bardia © Hemanta Joshi, Ujjyalo Cooperative*

Practical Action Nepal successfully facilitated the inclusion of community resilience priorities – identified via the FRMC process – into annual Local Disaster and Climate Resilience Plans in three municipalities in southwestern Nepal – Geruwa, Tikapur, and Rajapur. Resilience priorities that were included in plans and implemented by these municipalities include: the construction of water drainage facilities (e.g. culverts), bio-dykes, flood safe shelters, raised granaries, and raised nurseries; improvements to flood escape channels; improvements to water access during floods; updated communications networks for flood EWS; conservation of forests and ponds; and trainings for diversifying and strengthening livelihoods.

Practical Action's advocacy was successful due to:

- **Strong relationships:** Practical Action had been working in these municipalities since 2013, when Phase I of the Alliance began. They successfully established relationships with the local governments and communities that were a key entry point for influencing the local government planning process.
- **Alignment of programme timelines with existing government processes:** this alignment ensured that they would have the necessary data, policy recommendations, and community buy-in to engage in ongoing local policy processes.
- **Data-backed recommendations:** the FRMC provided an evidence base that showed how past government funds had been used and how previous plans and spending had not addressed the needs of the community and marginalised groups.

For community members, the entire process was inclusive and empowering. Now, local governments have invited communities directly to participate in the local planning process to ensure their needs inform the plans, a major step towards sustained change.

LSE

## Impact story

Local resilience data was integrated into local and national policies and plans in the UK due to LSE's evidence-informed advocacy and credibility as a major academic institution.

LSE participated in UK public policy consultations and provided recommendations based on insights from the Alliance's multi-dimensional and participatory community programming approach and FRMC data from Lowestoft, UK, the locality that LSE works with (Surminski et al., 2019a; Surminski et al., 2019b). LSE's advocacy contributed to the adoption of a broader definition of flood resilience in the UK's [National Flood and Coastal Erosion Risk Management Strategy \(2020\)](#). LSE's advocacy also contributed to the introduction of a GBP 200 million (nearly USD 270 million) [National Flood and Coastal Resilience Innovation Programme](#). This programme, which funds local UK flood resilience initiatives, is now a key source of funding for resilience-building efforts in Lowestoft.

LSE researchers also worked with the East Suffolk Council to use the FRMC to assess local flood resilience in Lowestoft and [use the data for decision-making](#). The Alliance project was timely for authorities, as there was significant national momentum for improving flood risk management. Furthermore, local authorities knew that they needed to go beyond flood protection measures to improve flood resilience. Local authorities found the FRMC useful; they were able to use it to identify non-structural flood resilience measures, and they liked its ability to provide baseline and endline data to highlight changes in local resilience as a result of actions taken on the ground. In partnership with LSE, Lowestoft's local authority integrated FRMC data into the [Norfolk and Suffolk Coast Transition Programme's](#) grant proposal. The proposal highlighted the need to build human and natural capitals based on FRMC data. This approach helped secure GBP 8.5 million (approximately USD 11 million) in funding for flood resilience projects across East Suffolk and Norfolk, to be delivered by 2027. This project was one of 25 projects across England that was awarded funding as a part of the National Flood and Coastal Resilience Innovation Programme. Based on Lowestoft's experience, Great Yarmouth committed to implementing the FRMC to develop its own data for resilience work.



Lowestoft workshop 2019 © LSE



Members of the Nangapur community enrol  
in IBFI © Practical Action, Nepal

## 5.2.4 Broad adoption, scaling, and replication of good practices and tools

Throughout Phase II, Alliance good practices and approaches were adopted, including through:

- Institutionalisation and scaling by local to national governments. The most salient Alliance good practices for government adoption have been related to EWS technologies (e.g. disaster alert apps, installation of rainfall monitoring stations, and digital weatherboards) and community-based EWS approaches. Other good practices institutionalised and adopted include nature-based solutions, rural infrastructure, and DRM training approaches (e.g. mock-flood exercises).
- Provision of additional external donor funding towards expanding and/or extending innovative Alliance pilots and community programmes, especially of EWS pilots and index-based flood insurance.
- Adoption of the FRMC tool and data and other Alliance-developed decision-support tools, including for local DRM governance.
- Replication of Alliance-led nature-based solutions (e.g. tree planting), small-scale infrastructure works (e.g. canal clearing and road elevation), and simple DRR practices (e.g. raising physical assets) by neighbouring communities and local civil society and non-governmental organizations.

Replication and scaling occurred where Alliance teams were able to show evidence of community resilience gaps and priorities coupled with solutions demonstrating relevance and a track record of success. To secure government and donor interest, the Alliance had to additionally ensure alignment of solutions with government and donor priorities and/or demonstrate their ability to fill gaps in existing approaches. Government adoption was also more likely if government representatives were involved in the design or implementation of those practices and approaches.



*Community brigade members practice CPR during the flood simulation in the community of Manuel Buelta y Rayon, June 2022 © Mexican Red Cross*

Mexican Red Cross

## Impact story

In Mexico, the National Civil Protection Agency is responsible for protecting and supporting the population during natural hazard events. Through the FRMC process and working with communities, the Mexican Red Cross identified priorities for strengthening flood resilience in remote communities, including strengthening social capacity to organize action at the local level. Steps taken to address this gap took the form of community brigades – trained volunteer community groups with the knowledge and skills to support their communities in preparing and responding to floods.

The Mexican Red Cross piloted the brigades approach to improve community disaster risk management capacity and provide governments with a community focal point to work with. In 2020, during major flooding in Tabasco, the brigades actively applied their training to respond to the floods and worked with Civil Protection during the response and recovery. Brigade efforts helped reduce impacts and facilitate recovery.

Recognising this success, the National Civil Protection Agency, through the National Disaster Prevention Center, invited the Mexican Red Cross to help develop the National Strategy for Resilient Communities. The brigades approach was integrated into the National Strategy which was expanded to encompass preparedness and *ex ante* action. As part of the strategy, a national registry was established to support and track brigades. In 2019, the Mexican President awarded the Mexican Red Cross with the National Civil Protection Award for their brigades approach.



Community brigade members lead an activity on Early Warning Systems with community members, March 2022 © Mexican Red Cross

ISET Vietnam

## Impact story

ISET Vietnam achieved scaling success using its approach of combining contextually-driven evidence with technical support to key government stakeholders. In their analysis of FRMC data from Binh Dinh Province communities, ISET Vietnam found that the needs of local communities and vulnerable groups were not identified in sufficient detail. As a result, many people, especially in urban and peri-urban areas, knew very little about their community's evacuation plan, and were not clear about when, where, or how to evacuate. This posed a significant risk to the health and safety of local community members during floods.

While local governments and DRM agencies were aware of the gap, they lacked the resources and tools to address it. ISET offered technical support to the provincial Climate Change Coordination Office and DRM Agency to develop a digital map for flood evacuation for Nhon Phu Ward, Quy Nhon City. The map was built for three scenarios from medium, severe, and extreme flooding and included contact information and other details for emergency responders, evacuation locations and arrangements, impacted households and their level of vulnerability, and housing and infrastructure needing consideration in each flood scenario.

This map and a technical handbook was handed over to the Nhon Phu Ward government. It was immediately taken up by the government, and integrated into the provincial DRM software system, and included in the disaster response plan of the ward. A map with this level of detail had never before been created in this province, and now serves as a successful use case for similar mapping exercises in other wards and communes in the province.



*Officials from the Binh Dinh DRM Office, the Binh Dinh Climate Change Coordination Office, community leaders, and local people discuss evacuation routes while reviewing the printed flood evacuation map © ISET Vietnam Office*

IFRC and Nepal Red Cross Society

## Impact story

*"The Municipal Disaster Risk Governance Assessment Tool is very useful to understand the current resources and need of resources, gaps and challenges in disaster risk reduction/ management in the municipality. These indicators [in the tool] will be considered during planning, budgeting, and policymaking."*

- Senior Municipal Government Staff  
from Barbardiya Municipality, Nepal

In March 2024, the Ministry of Federal Affairs and General Administration in Nepal endorsed the Municipal Disaster Risk Governance Assessment (MDRGA) tool, a tool to support municipalities in understanding their DRM responsibilities and strengthening governance.

Alliance work on the MDGRA tool began in 2017 following the introduction of a new federal system in Nepal. A policy analysis identified a knowledge and capacity gap for municipalities in Nepal who had newly acquired responsibility for Disaster Risk Management (DRM). To address this gap, the IFRC/Nepal Red Cross Society – with Practical Action, Mercy Corps, the Ministry of Federal Affairs and General Administration, and partner municipalities – developed, piloted, and refined a self-assessment tool based on the IFRC's Disaster Checklist that municipal governments could use. The tool was piloted in 12 municipalities that Alliance teams were already working in. The teams worked closely with municipal governments to roll out the tool, understand the results, and identify entry points for improving local disaster risk governance.

The March 2024 endorsement of the resulting MDGRA tool provided institutional recognition of this resource and generated credibility and momentum for the roll out of the tool across all 753 municipalities in Nepal.



Mr. Kali Prasad Parajuli, Joint Secretary from MoFAGA presented the MDRGA tool in the Biratnagar Metropolitan City © Nepal Red Cross Society



Flood level in 2020 in Nhon Phu Ward, Binh Dinh Province, Vietnam © ISET Vietnam Office

### 5.2.5 Increased local funding for resilience

Many sub-national and, particularly, local governments increased local funding for resilience due to a combination of Alliance advocacy and community programming. Alliance teams leveraged FRMC data and/or successful interventions to advocate for general and specific budget lines for *ex ante* resilience actions. Budgets are necessarily timebound, changing year-to-year; thus, it is difficult to say if these investments will be sustained. Nonetheless, these investments represent a paradigm shift for many local governments that primarily engaged around disaster response and may previously have never set aside funds for DRM, except perhaps for hard infrastructure projects.

Alliance teams also increased local funding for resilience through: 1) index-based insurance mechanisms that provide insured individuals with rapid funding once a predefined disaster threshold is reached and 2) community funding mechanisms in which communities pool funds and loan them out to members to address needs. Community members used these funds to invest in and expand climate-resilient livelihoods and also for household-level disaster risk reduction, preparedness, and recovery.



Farmers enrol in IBFI, Nepal © Hemant Raj Joshi

Practical Action Bangladesh and Concern Bangladesh

## Impact story

In Bangladesh, Practical Action and Concern successfully influenced local governments (Union Parishads) they work with to invest in resilience. Both Practical Action and Concern Bangladesh worked with communities living on *chars* – islands formed by the accumulation of sediment in the major rivers of the Bangladesh floodplain. The land in *char* areas is unstable and prone to flooding and erosion, leaving residents highly vulnerable.

In 2021, Practical Action Bangladesh conducted a Post-Event Review (PERC) of the 2020 floods caused by Cyclone Amphan. This PERC revealed significant gaps in the capacity of Union Parishads to manage disaster risk, with a key driver being the lack of local-level financing for DRR and CCA.

Practical Action, in collaboration with Concern, combined evidence from the PERC, FRMC, and their own local-level work that showed the effects of limited financial resources, and then developed targeted written materials and workshops on improving local allocations for DRR and CCA. They actively shared this knowledge locally, nationally, and with major relevant civil society organization alliances (e.g. through membership of the National Char Alliance of Bangladesh). In addition, Concern facilitated a platform for community-based groups to share their resilience experiences and needs with high-level government officials, linking these issues to limited local spending on DRR and CCA.

Consistent and collective advocacy warmed the government to the idea of establishing special budgets for char areas and resulted in the allocation of money from a national programme to Union Parishads for DRR and CCA for the first time. Union Parishads in Alliance project areas also increased their allocations towards DRR and CCA for 2022-2023 and 2023-2024, with money specifically going towards nature-based solutions and resilience issues identified through the FRMC process. In 2023, the Union Parishads also earmarked almost BDT 30 million (approx. USD 245,000) to establish a sector dedicated to disaster management.



*Moderated by the GUK Field Facilitator in Vati Kapasia, Sundarganj, Raja Mia (36), a 23-member Community Resilience Action Group (CRAG) convenes monthly to discuss and reflect on community issues, particularly the developmental needs essential for building resilience © Saikat Mojumder, Concern Worldwide*

Mercy Corps Nepal

## Impact story



*The gabion wall constructed within the riverbed in Chiran, Kalakot community of Alital rural municipality, Dadeldhura, plays a vital role in shielding water pipes and protecting the community from floodwaters © Mercy Corps Nepal*

In Sudurpaschim Province, Nepal, Mercy Corps influenced the institutionalisation of a budget provision for DRR and CCA and the disbursement of those funds. Over half a million people are estimated to have been impacted as a result of this new government spending<sup>9</sup>.

In Nepal, the 2015 federalisation of the government opened up new opportunities and mandates for local governments to improve their policy and fiscal frameworks related to DRR. Noting the lack of data on municipal DRR and CCA spending, Mercy Corps commissioned a budget study and the development of a budget tracking tool to track municipal DRR and CCA investments. They shared their research findings and Alliance messaging – that investing USD 1 in DRR would save on average USD 5 in future losses – with local government, generating support for increasing DRR and CCA investments. In 2019, Mercy Corps and UNDP facilitated a two-day workshop in which ministry officials came together to write Sudurpaschim's disaster risk reduction and management plan, which included a new budgetary clause for five percent of municipal budgets to be allocated to DRR and CCA activities.

Mercy Corps then shifted focus to the implementation of the budget provision, including tracking money actually spent on DRR and CCA, and influencing the disbursement of that funding. For the latter, Mercy Corps implemented the FRMC in communities, built the advocacy capacity of communities, and supported the development of advocacy plans grounded in FRMC data. Community advocacy resulted in the integration of community priorities into the local development plan, which had a cascading influence on local government budgeting decisions to provide in-kind support and allocate funds for proposed community initiatives, including USD 26,000 for various infrastructural interventions.

The impacts of these initiatives are evident. The successful implementation of drainage works has effectively resolved pondage and inundation issues, contributing to a safer and more sustainable living environment. The establishment of an all-weather road network has enabled seamless commuting for community members and the provision of core services. A new transformer means electricity shortages occur less frequently. Additionally, the introduction of safe shelter houses not only provided a secure haven but also created opportunities for vital community services. These spaces now serve as immunisation centers, *Bal Siksha Kendra* (Child Education Center), and hubs for various community social activities, fostering a holistic and thriving community life.

<sup>9</sup> The people impacted as a result of this success are not included in the Phase II people impacted total as they were not quantified until the end of 2024.



*Timely alerts allow farmers like Amena to take early action to protect their crops ©*  
Practical Action Bangladesh

*The gully within our school had become a serious threat to buildings but most importantly to the safety of school children who run around in the fields. It was widening towards the school and road. The partnership between parents at the school and Practical Action is much appreciated as a resilience measure.”*

- Deputy Head, Mrs. Chakwakwama,  
Zimbabwe

## 5.2.6 Infrastructural improvements

The majority of infrastructural improvements that Alliance teams facilitated were related to early warning systems (EWS), including setting up community-based EWS and piloting new EWS technologies (e.g. [see Impact Story 2](#)). Teams also worked to improve the maintenance, accessibility, and usability of EWS (e.g. generation of usable warnings). Critically, they ensured the long-term management of EWS by embedding skills on maintaining EWS and disseminating and using warnings within communities and local governments.

Teams also facilitated infrastructural improvements that increased access to key services like WASH, improved flood protection and drainage, enabled continuity of transportation during flood events, and enabled evacuation (e.g. safe shelters, evacuation routes). The FRMC process was critical for identifying infrastructure to target. In terms of flood protection, Alliance teams facilitated the building of smaller-scale nature-based solutions (e.g. [biodykes](#), [reinforcement of canal banks](#)) and the repair and reinforcement of larger-scale infrastructure (e.g. repair of flood walls and dykes, stabilisation of erosion gullies). These infrastructural improvements were implemented in close collaboration with communities and government, with co-financing from Alliance teams and government. They were key opportunities for increasing the skills of community members, thus improving both their livelihood potential and the potential for communities to maintain critical infrastructure beyond the programme period.



*The flood protection wall in the community of Ponari was rehabilitated by the Red Cross of Montenegro together with the Zeta Municipality to mitigate impacts on livelihoods © Red Cross of Montenegro*

Red Cross of Montenegro

# Impact story

The Red Cross of Montenegro collaborated with the Zeta Municipality to implement three flood protection infrastructure micro-projects to ensure greater protection for families, assets, and livelihoods during floods:

- The repair of 380 metres of a critical flood protection wall on the Moraca River in Ponari;
- the cleaning of key flood drainage canals in Kurilo and Bistrice; and
- the establishment of green islands for waste management in Gostilj and Berislavci to reduce contamination and related illnesses during floods.

Often, the key obstacle to undertaking flood protection infrastructure projects at the local level is securing sufficient funding. To address this gap, the Red Cross of Montenegro aligned community priorities emerging from the FRMC with priorities outlined by the municipality in Local Flood Protection Plans; they also proposed solutions for co-financing and co-developing interventions together with municipal authorities. This novel collaborative approach was effective. As noted by Nataša Uskoković, International Relations Advisor for the Red Cross of Montenegro, *"The approach that the Red Cross of Montenegro took by aligning programme activities and initiatives with existing policies, strategies and laws proved to be effective. This was a key enabling factor for the successful collaboration with local stakeholders that resulted in significant improvements to community resilience."*

As a result of these efforts local authorities provided support in the form of direct financial contributions and technical assistance.

This public-private model was effective for piloting new interventions and prompting further action and responsibility from local authorities and communities, thus enhancing sustainability. Local authorities are committed to the long-term monitoring and maintenance of these infrastructure projects.

*"In addition to the infrastructural importance, these initiatives also had a positive impact on the awareness of citizens and changes in behaviour regarding waste and attitudes towards protecting waterways... in order to reduce the negative impact of floods on people's lives and their property."*

- Mihailo Asanović, Mayor of the Zeta Municipality



(Top) Follow up visit to observe the local waste management station in use following the successful completion of this collaboration between the Zeta Municipality and the Red Cross of Montenegro. (Bottom) Regular meetings between the Red Cross of Montenegro and the Zeta Municipality were held to ensure the successful completion of cofinanced community resilience initiatives. © Red Cross of Montenegro

Albanian Red Cross

## Impact story



*New, fortified bridge in the community of Darëzezë to support evacuation during floods © Albanian Red Cross*

The communities of Fitore and Darëzezë in Albania implemented two infrastructure projects to protect and ensure the continuity of community livelihood activities during and after floods. The Fitore community constructed a flood protection wall to safeguard the community's daily market, benefiting both households and businesses, ensuring uninterrupted local commerce, and reducing the possible impact of floods on people's livelihoods. In Darëzezë, a bridge used to evacuate livestock, food stocks, and farming equipment was replaced with a wider, higher, and more robust bridge to enhance the opportunity for evacuation in the case of floods.

These interventions were chosen in collaboration with communities and local leaders. The Albanian Red Cross engaged local, municipal, and national authorities as partners by sharing FRMC results and community perspectives. Authorities provided expertise, co-financing, and additional resources to support the implementation of the flood wall and bridge.



*New, fortified bridge in the community of Darëzezë to support evacuation during floods © Albanian Red Cross*



*Inauguration of the new evacuation bridge in the community of Darëzezë with the presence of Albanian Red Cross and local, municipal, and national authorities © Albanian Red Cross*

## 5.2.7 Strengthened livelihoods

Many Alliance teams worked with communities to strengthen livelihoods through reducing livelihood losses during floods (e.g. via climate resilient agriculture practices), improving household and community coping capacities (e.g. economic diversification and income generation to support risk reduction and recovery), and reducing flood risk (e.g. via the introduction of livelihood practices that do not degrade ecosystem services). Teams also reported livelihood benefits emerging where community skills were strengthened to maintain community infrastructures and interventions.

The most compelling and successful livelihood shifts occurred where teams used a systemic approach to improving livelihoods; for example, they connected new livelihood practices to markets and secured government support to contribute to and help maintain new livelihood practices.

Alliance efforts also resulted in communities transitioning to alternative, more climate-resilient livelihoods and to investing savings in DRR and preparedness activities. Additionally, livelihood strengthening opened up unanticipated routes of engagement: community and government relationships improved due to greater collaboration, leading to increased opportunities for community advocacy. Joint implementation also built Alliance credibility to advocate for further government engagement in resilience action.



*Evidence Mutitsve, one of the three women trained in the construction of biogas digesters © Practical Action Zimbabwe*

Practical Action Zimbabwe

## Impact story

In Chimanimani District, Zimbabwe, Practical Action implemented a clean cooking initiative, which contributed to improving environmental quality, economic diversification, health, and women's empowerment. Collecting firewood for cooking is a burdensome task that typically falls on women and children, contributes to deforestation which increases runoff and intensified flood risk, and negatively impacts health during use. In response, Practical Action introduced biogas made from animal dung, an alternative fuel source to wood, and trained local engineers to safely construct and install biogas digesters. Biogas is now being used by many community members for cooking, lighting, and powering appliances like refrigerators. The adoption of biogas digesters dramatically improved the quality of lives of the system recipients, through conserving trees, providing income generating opportunities, improving air quality, safeguarding women's and children's health, and reducing the burden of collecting firewood.

The engineers – several of whom are women – are now working independently of the project to generate business for the service. They have also replicated the approach in the private market without subsidisation. As noted by Evidence Mutitsve, a woman who received training to construct biogas digesters, *"I am empowered as a woman and fully committed to this enterprise which will generate income for me. As women we can also participate as builders with no limit or excuse."*



Maidei Kusukutwa cooking on a biogas stove. Maidei was one of the first villagers to have a biogas digester constructed at her house © Practical Action, Zimbabwe

Concern South Sudan

## Impact story

Concern's activities in South Sudan have fostered a sense of ownership, responsibility, and social cohesion among the communities, leading to the development of community-led innovative livelihood solutions.

After four consecutive years of crop failures due to floods, the Makuach Kotic community in South Sudan knew something needed to change. Based on their experience, the FRMC process, and Concern's awareness-raising and skill-building initiatives, the community decided they needed to transition to rice production as an alternative to sorghum farming. Rice is more able to withstand and even benefit from flooding, making it more suitable in flood-prone areas. This livelihood solution was not initially envisioned by Concern or by external stakeholders – it was a novel approach devised by the community. After the Makuach Kotic community approached Concern about their solution, Concern reached out to agriculture experts from the State Ministry of Agriculture, Forestry, and Environment. These experts, alongside Concern, provided 40 farmers with training and guidance on rice cultivation. The training led to the establishment of rice paddies, which paired with effective cultivation techniques led to increased rice productivity in these communities.



Community dry garden in South Sudan © Concern South Sudan



*Alliance coordinator (Seona Dillon Mcloughlin) and project officer (Elvas Munthali) interacting with community members during the inspection of a communal nursery in Mbenje community T/A Mbenje, Nsanje District, Malawi in September 2023 © Stanley Thyoka Phiri-Driverteam*

# 6 How the Alliance knows communities are more resilient

## KEY TAKEAWAYS

- Communities have demonstrated greater resilience during flood events, evidenced by reduced losses and damages.
- Communities have seen increases in human, social, natural, physical, and financial capitals between their FRMC baselines and endlines. Social capital saw particularly significant increases through Phase II.
- Observational and anecdotal evidence indicate that Alliance efforts played an important role in these improvements.

## 6.1 Improved flood outcomes

The most resounding impact of the Alliance programme is improved flood outcomes in the countries and communities in which the Alliance engages. Not all communities were tested by floods, but where floods did occur, communities experienced fewer losses and damages.

The work of the Alliance validation team indicates that higher levels of resilience before a flood do correlate with lower impacts after a flood. The implication of this is that improving pre-flood resilience will decrease flood impacts. However, other factors and actors are often at play, and it is not possible to attribute reduced losses and damages solely to Alliance efforts.

Yet, due to its robust monitoring system, the Alliance can confidently point to the aspects of its programming that contributed to improved flood outcomes in these communities. Alliance teams found that:

- EWS established and/or strengthened by the Alliance worked. Community-based groups received, interpreted, and disseminated early warnings to their wider communities, and community members used those warnings appropriately.
- People protected their assets and evacuated on time, and used evacuation routes and shelters established by Alliance teams.
- Community-based groups were effective not only at implementing the EWS, they also supported their communities with preparedness and kickstarted response in advance of government arrival.
- Alliance-provided emergency supplies were used by communities, enabling them to reach safety quickly and safely.

Below are a series of stories that show how communities that the Alliance operated in experienced floods during the Phase II programme.

Concern Malawi

## Impact story

In Nsanje District, Malawi, activities facilitated by Concern – including the strengthening of EWS, prepositioning of supplies, infrastructural improvements and improved district-level disaster contingency plans – led to better preparedness, response, and recovery during Cyclone Freddy in 2023. District-level contingency plans improved preparedness. Effective communication of early warning messages led households to evacuate and transfer assets, which resulted in reduced casualties. Communities were also effective in responding to evacuation needs: temporary shelters were set up at schools and vulnerable groups like single-mother-headed households, people with disabilities, and the elderly were prioritised for evacuation and relief. Despite the damage caused by the cyclone, communities gradually reconstructed their physical assets. In addition, most health posts throughout the district were able to continue to provide healthcare, which helped communities reduce post-flood illness.

*“We are proud of the Flood Resilience Project. As members of local disaster committees, we thank Concern Worldwide for the training from the Zurich project. We learned about Disaster Risk Management, Early Warning Systems, search and rescue, and first aid, among other skills. We’ve already started using what we learned. For instance, during Cyclone Freddy, our committees were on the frontline helping affected people, rescuing and searching for them, and finding evacuation centers.”*

- Stanley Magalasi, a DRR local committee member from Mbenje community in Malawi



Search and rescue canoe drills - Shire River, Mtaya Moyo in Mbenje © Jon Hozier-Byrne, Concern Worldwide

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## STORIES OF FLOOD RESILIENCE

**Awareness raising and capacity-strengthening to reduce loss of life and assets**

Concern Kenya

**Impact story**

In Tana Delta County, Kenya, Concern's awareness raising and capacity-strengthening activities led communities to take early action to safeguard their harvest, protect livelihood assets, and implement better sanitation and hygiene practices during the 2023 El Niño floods, reducing loss of life and assets. In cooperation with the county government, Concern raised community awareness on the importance of early action and disseminated early warning messages to the communities about the impending El Niño floods. Communities harvested their crops early, protected their assets, and then evacuated. Few crops were lost during the floods. Where crops had been lost, communities relied on other income-generating livelihoods, such as apiculture and livestock-rearing, enabled by Concern. While houses in the flood zone could not be saved, communities overall reduced their losses; in previous years communities had lost all crops and 90% of their assets. Lastly, during the floods, as a result of Concern's implementation of the community led total sanitation approach to end open defecation, better sanitation and hygiene practices helped to prevent cholera outbreaks.



*Osman Mohamed, a community health assistant, conducts a follow up session on community-led total sanitation in Handaraku Village in Tana River County © Zurich Flood Resilience Alliance, Concern Worldwide*

Plan El Salvador

## Impact story

In El Salvador, community-based groups established by Plan conducted response operations in coordination with local institutions and the national civil protection system during floods in 2022, 2023, and 2024. At the programme start, Plan and the communities they worked with identified the need to bolster knowledge on risk monitoring, communication, and disaster response. Plan set up community-based groups responsible for DRM and response called Community Civil Protection Commissions and Networks of Local Observers, and connected them via an inter-community communication mechanism where information was shared throughout the river basin. With support from local and national government, the groups were trained on gathering information on rainfall, floods, and overflows in the middle and upper parts of the basin, and then developing risk scenarios linking upper basin conditions with likely intensity and timing of flooding in lower-basin localities. In parallel, efforts were made to improve timely response through effective, real-time communication between flood-prone communities and official response teams.

In 2022, the community groups in El Majahaul and San Diego provided early warnings and took the lead in evacuating community members to safe shelters. The community groups also cleared clogged drains and fallen trees. In 2023, the same community groups obtained real-time data from upstream communities, which helped them to develop accurate forecasts on intensity and timing of flooding in their localities. In turn, this enabled them to monitor and pre-emptively evacuate risk prone areas, optimising response times and saving lives. In 2024, community groups evacuated more than 900 people to safe shelters; unlike in other areas of the country, these communities did not register any deaths or missing people.



*Resilience workshop with the Departmental Civil Protection Commission © Michel Galdámez, Plan International*

Concern Bangladesh and Practical Action Bangladesh

## Impact story



(Top) Local people work on homestead raising activities © Practical Action Bangladesh. (Bottom) An initiative in Concern's Zurich programme is to build water pumps on platforms above the flood line. This means water is available even during the floods © Concern Worldwide

In Bangladesh, communities better coped with a series of weather events that occurred between late 2021 and 2022, including floods, heavy rains, and hailstorms. Practical Action and Concern Worldwide's plinth-raising efforts supported community members to protect their assets, and improvements in early warning meant that people received messaging that enabled them to protect their agricultural products and livestock. After the floods, communities used funds from community savings schemes established by Concern to further invest in flood preparedness. As Mabilia, a community member from Purboholdibari noted, "We have strong community-based organization working on flood resilience, we have raised homestead, school ground and cattle shelter that protect us from flooding, we the village people take shelter along with belongings and [are] able to [reduce] loss of lives and properties." Due to improved relationships between local government and communities, local governments in Alliance project areas are increasingly working with communities to repair damaged infrastructure and distribute relief and other support for households.

Red Cross Mozambique

## Impact story

In Mozambique, Local Disaster Risk Management Committees formed and strengthened by the Mozambique Red Cross Society disseminated early warning messages – developed in coordination with local authorities and the National Institute of Disaster Management – and evacuated populations from high-risk areas prior to floods. Thousands of door-to-door visits were carried out in Beira and Buzi to share key messages and raise awareness of flood risk at the household level. These visits focused on topics such as identifying evacuation routes, preventing water from entering the house, receiving credible information before floods, what to do in the case of flooding, where to get support, and how to protect important documents and valuables. Early warning messages were also shared via regional radio stations and locally via loudspeakers in Portuguese and local languages, including Ndao, Cinday, and Cena, to ensure widespread accessibility to the information especially in rural areas where the majority of the population do not speak Portuguese.



*Community members participate in FRMC endline focus groups where the local population reiterated the importance of early warning to protect lives and livelihoods, Mozambique © IFRC*

Mercy Corps Nepal and Practical Action Nepal

## Impact story



(Top) Baidi community in Tikapur Municipality, Kailali performing a mock drill before the monsoon season © Yuwan Malakar, Practical Action, Nepal. (Bottom) A drainage system built through joint investment by the community, municipality, and the project now safeguards 34 households in Pattarakhala, Dodhara Chadani Municipality, from inundation during the monsoon season © Mercy Corps Nepal

In Nepal, Practical Action's and Mercy Corps' community programming efforts helped save lives. In September 2022, during unseasonal post-monsoon floods in the Lower Karnali Basin, community-based groups supported by Practical Action provided timely early warnings and swiftly evacuated vulnerable community members to programme-supported safe shelters. Furthermore, due to improved early warning communication channels established by Practical Action, community members began proactively seeking out risk information by calling gauge readers themselves to ask about river levels before floods occurred. Because of increased risk awareness and effective early warning messaging, most people were able to evacuate their livestock from their households to safer places. People also saved their household belongings by keeping them on raised platforms. There was no loss of human life.

During the July 2024 floods in Patarkhalla, Mercy Corps-supported small-scale drain improvement works enabled safe evacuation. According to Chandra Sunar, Chairperson of the Pragatishil Community Disaster Management Committee, the installation of a hump pipe saved the lives of all community members. She added that if there was no hump pipe, the community would have had to cross a drain filled with more than 10 feet of water, which would have been impossible. Mangal Sunar from Pattarkhalla added, "I crossed the drain using hump pipes twice at night to shift children and elderly people to [a] safe place and I feel that hump pipes act as a lifesaving intervention for the community".

ISET Vietnam

## Impact story

In November 2024, the Hue Provincial Government in Vietnam endorsed and provided funding for the installation of high-power EWS sirens across the entire province, after two sirens installed by the Alliance programme were effectively used for warning of Storm No. 6 (Trami) in October 2024. ISET developed the approach with the provincial DRM office, provided funding for the installation, and advocated for approval and annual funding for operation and maintenance. This is the first time such sirens have been used for early warning in Vietnam.



*"These sirens proved highly effective during the October 2024 flood in our ward. This solution is especially beneficial for vulnerable groups, such as the elderly who are unfamiliar with or do not use smartphones, as well as individuals who may not regularly receive warning information from the neighbourhood or local authorities."*

- Le Quoc Thang, DRM Officer of An Dong Commune, Hue City



(Top) A high-powered warning system being installed in Hue City, Vietnam © Hue City DRM Office. (Bottom) A high-power siren located in the north of Hue City © ISET Vietnam Office

Plan Philippines

## Impact story

In Navotas in the Philippines, community groups established by Plan played a critical role in response and recovery during the July 2024 floods. One community group, comprised of mothers, mobilised to conduct response operations and coordinated with the local government to rescue families. Another community group, also comprised of mothers but focused on savings, supported community members to access community funds when livelihoods temporarily stopped due to the floods. In prior years, community members would have relied on loan sharks and borrowed money at a high interest rate of 10-20%. The savings group also became a venue for the mothers to come together after the floods and talk about what happened and how they could help each other and the most vulnerable among them.



Women participating in the community savings group © Plan International

## 6.2 Improvements in FRMC grades

Both the MRL data and the validation study show that FRMC grades generally increased from baseline to endline. Given the validation of the FRMC, increases in FRMC grades over time are a useful indicator of increased flood resilience. Triangulating FRMC validation findings with MRL data indicates that, simply put, Alliance programmes have positively impacted Alliance communities.

### 6.2.1 The FRMC grade changes in Alliance communities

At baseline, average capital grades were clustered at the lower end of the resilience scale. This was expected given that Alliance communities were selected in part based on their vulnerability. Most capitals were graded between C and D. The exception was human capital, with scores reaching a B grade. Similarly, post-event data from 66 communities in seven countries indicated that floods led to loss of life, injuries, and significant economic damage. The data indicated that community systems struggled to perform effectively during and after floods. Livelihood systems faced particularly critical impacts.

At the endline, grades had increased across all capitals. The most significant increase was in social capital, particularly in Alliance African and South Asian programmes.

- **Social capital** across all Alliance communities substantially increased. This reflects the focus of community programming efforts on improving social capital. Teams noted that the establishment and/or strengthening of community-based groups that support community disaster risk reduction, preparedness, response, recovery, and advocacy was a major contributor. These groups supported the provision of mutual assistance within communities; greater community participation and leadership in flood resilience activities and decision-making; and greater coordination within communities, within governments, and between communities and governments.
- **Human capital** increased across most Alliance communities, particularly as a result of increased knowledge and skills in key risk resilience areas for communities and local governments. These included first aid and health care, evacuation and safety, asset protection, flood exposure, climate-resilient livelihood options, and environmental management. Communities also demonstrated increased knowledge about how to access and use critical services such as early warning systems/risk information, water and sanitation, and health care. These changes were primarily the result of Alliance teams focusing on human capital as a key priority area of engagement through awareness-raising and capacity-strengthening. The exception to human capital increases was in Alliance Middle Eastern communities. Application of the FRMC was new for this team. Upon reflection, they concluded their baselines had not accurately reflected the actual state of human capital in their communities.
- **Physical capital** saw modest improvements in most communities. This is unsurprising; the physical capital sources are more difficult to change in 1-3 year timeframes with only modest funding and working primarily at the community level. Where physical capital grades increased, it was primarily due to increased access to

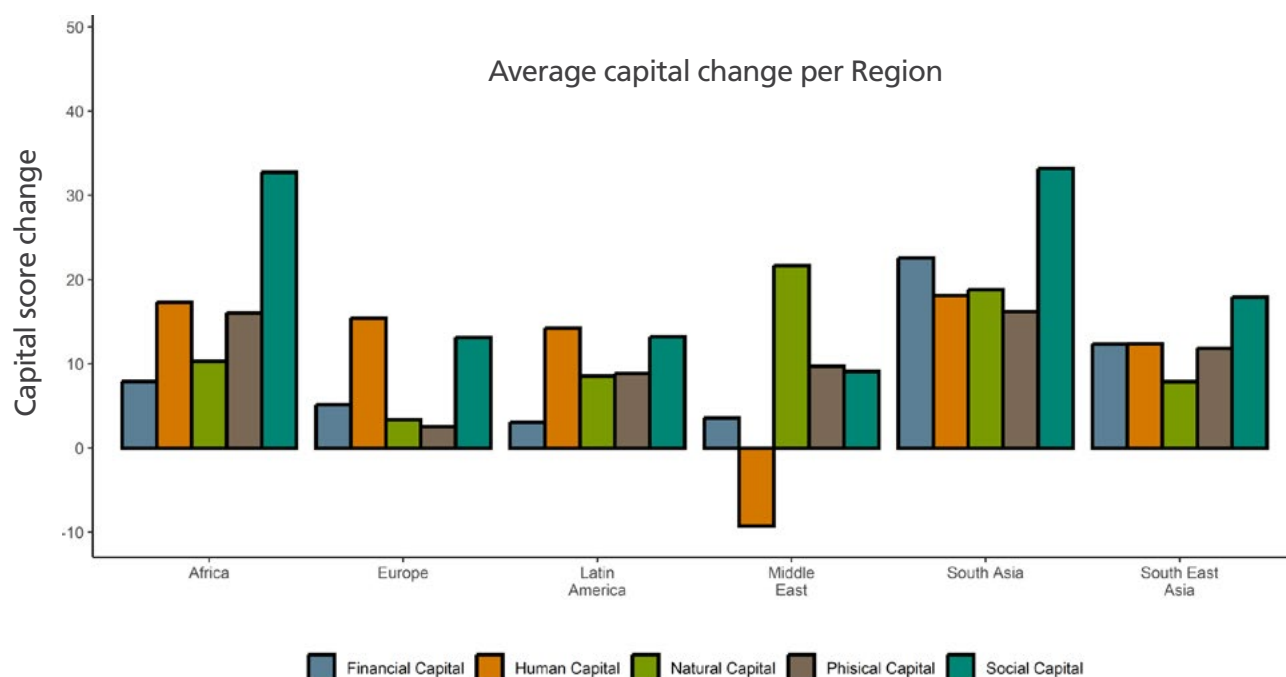
#### FRMC GRADING SCALE

- **A:** best practice for managing the risk
- **B:** a generally good standard with no immediate need for intervention
- **C:** indicating deficiencies and clear need for improvement
- **D:** significantly below acceptable standards, with potential for imminent loss

For the purposes of aggregating grades into average capital scores and examining change over time, grades are assigned numeric values:

A=100, B=66, C=33, D=0

Figure 9. Change from baseline to endline in average capital score by region



early warning systems and flood-resilient infrastructure, and adopting household flood protection practices. This growth was seen broadly across communities, as many had led programme interventions related to establishing early warning systems, improving community-level dissemination and usability of early warnings, improving government-community coordination and communication, and locally embedding the management and maintenance of early warning systems (EWS).

- Financial capital** saw improvements in some communities and minor changes in others, particularly in the Alliance's European, LATAM and Middle Eastern programmes. This could be due to a plethora of external factors, including national economic context and broader economic factors (e.g. COVID-19 pandemic, other hazards); further research is needed to confirm. However, Alliance teams did report increases in community funds for managing disaster risk through the establishment of community disaster fund mechanisms and/or successfully advocating for local government investment in community resilience. This was particularly true in South and Southeast Asian and African programmes and is likely a contributing factor to the higher financial capital changes in those regions. In addition, teams reported improvements in business continuity due to disaster risk reduction interventions and greater household asset recovery, due to improved preparedness, which also strengthened financial capital.
- Natural capital** grade changes were variable with increases in some communities, and decreases or no change in others. External factors certainly may have been at play, for example, the degradation of ecosystems and ecosystem services due to development, overuse, or disasters. The Middle Eastern and South Asian teams implemented local nature-based solutions as part of their work, which likely contributed to the relatively higher gains in FRMC grades in those regions. Overall, however, most teams desired further knowledge and capacity-strengthening on how to deliver natural capital work. This feedback was taken into account in designing the Zurich Climate Resilience Alliance. Nature-based Solutions has been added as a

foundational theme through which peer-to-peer learning and capacity-strengthening will be delivered.

### 6.2.2 Going beyond grade changes by capital

The validation team found that the five capitals of the FRMC tool interact with each other. An intervention in one domain can change how another intervention progresses such that gains or losses in one capital can trigger positive or negative ripple effects, respectively. This finding indicates that focusing on social and human capitals, as Alliance teams did, is a meaningful entry point. In particular, social capital was found to influence all other capitals, while human capital was found to influence social, natural, and physical capital. So, focusing on social and human capitals supports the improvement of all capitals, which then also supports the improvement of resilience.

For example, a key social capital-related intervention that Alliance teams implemented across almost all communities was the strengthening of community-based groups; these groups were trained on disaster risk management and resilience skills (human capital). These community-based groups have been critical for the establishment and functioning of physical capital-related systems such as early warning systems. They have also been critical for successfully advocating for local investment in flood resilience (financial capital). Thus, social and human capital can be key entry points to enhancing financial and physical capitals. The interplay between capitals is particularly strong between financial and physical capitals and human and social capitals. Natural capital appears more dependent on community context and specialised interventions.

This interplay can, in part, explain why the FRMC validation team found that communities with higher natural, physical, and financial capitals generally experienced better post-event outcomes. These communities were also more likely to be able to protect their assets and maintain their livelihoods and income stability after a flood. In addition to the interplay of capitals, this finding mirrors the understanding in the sector that more developed communities with more resources and more preservation of the natural environment do better in floods. In addition, they found that multiple sources of resilience acted together to influence individual post-event outcomes, highlighting the multi-dimensional nature of disaster resilience. These findings provide a useful

#### **BOX 7. DOES HIGHER RESILIENCE MEAN LOWER IMPACTS AFTER A FLOOD?**

The FRMC assumed that a higher level of resilience, measured by the FRMC, results in significant reduction of impacts after a flooding event. The validation team confirmed that this assumption is indeed accurate. Communities with higher natural, physical, and financial capitals generally performed better across most post-event outcome themes. In many cases, multiple sources of resilience acted together to influence a single outcome variable, highlighting the multidimensional nature of disaster resilience. For example, communities with strength in sources of resilience such as stronger risk reduction investments, early warning systems, or community safety measures and coordination, experienced lower flood impacts (Chapagain et al., 2025). These results can be used to point to priority investment opportunities, in support of a contextually-driven approach to resilience building.

framework for understanding how FRMC grade changes may translate to improved resilience in communities in the absence of an actual flood.

MRL data revealed that the bulk of programmatic efforts centred around building social and human capital in communities. How does this fit in with the validation teams finding that higher natural, physical, and financial capitals were the most important indicators of post-flood outcomes? In part, this is due to the fact that programme design processes are complex. So, while FRMC baselines showed critical gaps in natural, physical, and financial capitals, interventions were chosen based on more than just these grades.

The decision matrix included:

- **Priorities, co-generated with local stakeholders:** An FRMC grade points to potential for improvement or areas of strength, but does not provide a final answer. This data facilitates a shared learning and programme design process with local stakeholders, including government and communities. These stakeholders bring to the table different preferences, capacities, knowledge of external contextual factors, and resources that influence programme design. Resilience priorities and interventions are chosen with these pieces of information placed alongside FRMC data.
- **Feasible entry points:** Communities and organizations can more easily access some capitals more than others. These vary based on context, organizational capacities, local capacities, and programme resource and time constraints. For instance, physical, financial, and natural capitals are frequently outside of the control of communities, and can require significant time, resources, and capacities to shift. In contrast, human and social capitals are much more accessible. Therefore, Alliance teams and communities focused on what they could change. While the baseline score is useful to identify priority areas, a pragmatic and context-driven approach is necessary as well. Building on a strength is a meaningful and empowering way to initiate change, especially if it is done in a way that offsets weaknesses. It may also be the fastest way forward.



Community participants checking results from the FRMC in Kutiyakabar, Dodhara Chandani Municipality, Nepal © Nabin Bhandari, Project Coordinator, NEEDS

Alliance community programming has helped move the needle on resilience in Alliance programme communities. A grade change (e.g. going from a C grade to a B) indicates that the communities with whom the Alliance works with have experienced promising gains in resilience. However, that is not the end of the story. Building resilience is an ongoing, iterative process. Maintaining programming in such communities offers a uniquely efficient opportunity to further improve resilience grades, strengthen flood resilience across all capitals, and deepen impact.



The FRMC provides crucial, high-level data to understand resilience strengths and weaknesses and illustrates how different types of resilience activities can build resilience over time. However, it can be difficult to attribute FRMC grade changes solely to an intervention or programme,<sup>10</sup> and so, FRMC findings should not be used as a final answer. The FRMC can direct action in a data-driven direction, but it is a decision support tool. It does not provide off-the shelf answers about how to design a resilience programme.

Similarly, the grade change study combined with the observations of country teams shows that building resilience is an inherently complex process. There were different patterns in both initial baseline grades and grade changes across Alliance country contexts, and even within individual Alliance countries. While there are trends that can be identified, it also remains true that teams enter the process with different baselines, capacities, and emergent opportunities for growth.

Together, this points to the need to meaningfully include community insight into investment decisions. The insights from this research can help policymakers, development practitioners, and community leaders approach resilience with the same evidence-driven perspective. Further, the range of variables identified previously suggests that a one-size-fits-all approach will be ineffective. Rather, implementing community programming processes that are simultaneously evidence- and community-informed, such as the FRMC, are crucial for the development of successful, contextually-embedded resilience programmes. In this way, the FRMC supports better investment of limited resources for maximum resilience impact.

<sup>10</sup> External factors can influence the capitals. Economic or political disruptions, such as conflict, policy reversals, or the end of donor-funded projects, can quickly erode formerly stable conditions. Abrupt job losses or demographic shifts, either because of a weather event or something else, like the COVID-19 pandemic, can result in stagnation or decline in financial capital, especially if households must deplete resources to manage immediate needs. Migration of high-skilled individuals and overwhelmed health systems also negatively impacts human capital. Climate pressure, faced by all FRMC communities, is a major degrader of natural capital, and undermines ecological recovery post-event. Poor maintenance or recurrent disasters undermine physical infrastructure like roads, public buildings, or water facilities, decreasing scores in physical capital. Community disputes may put downward pressure on social capital.

# 7 Adapting to challenges

## KEY TAKEAWAYS

- The unique nature of the Alliance's programme, particularly in its ability to self-govern and its flexible funding, enabled teams to experiment, learn from failure, and overcome challenges that arose from shifts to baseline conditions (e.g. due to the COVID-19 pandemic). It also allowed the Alliance to course-correct when gaps in Alliance strategy were identified (e.g. in facilitating local-to-global connections and engaging in climate and DRR policy more broadly despite the explicit programmatic focus on floods).
- Expansion teams were able to achieve impact despite their shorter programme timeframes by building on the learning and approaches piloted by other Alliance teams..
- Learning from challenges and successes has fed into the design of the Zurich Climate Resilience Alliance, the newest iteration of the Alliance. The clear value of building incrementally on existing knowledge, credibility, and relationships and allowing work to grow organically rather than forge off in new directions is something the Alliance is actively carrying forward into its new programme, particularly as the Alliance engages on new climate hazards

## 7.1 Innovative finance work was exploratory

Alliance teams were given the opportunity to innovate finance mechanisms under the objective of increasing flood resilience funding. Plans under this exploratory workstream were initially highly ambitious in terms of scope – introducing green bonds and insurance in select national contexts. However, the highly technical nature of these issues and the high levels of government targeted proved to be significant barriers for the teams involved.

The Alliance's singular success in the innovative finance space resulted from focusing on an opportunity directly related to an evolution of early work. In Nepal, Practical Action successfully piloted a local level index-based flood insurance scheme in communities they had worked with since Phase I. The Nepal team's success can be attributed to: 1) deep knowledge of the pilot communities, which supported the design of a contextually-appropriate pilot, 2) credibility from establishing associated systems needed to make their solution work, and 3) strong, trust-driven relationships in place with all relevant stakeholders. These are the same attributes that have contributed to other successes in the Alliance ([see Section 5](#)). This knowledge, continuity, and trust will continue to be carried forward to support innovative financing efforts under the Zurich Climate Resilience Alliance (ZCRA) and as the Alliance expands to new hazards.

Practical Action Nepal

## Impact story

Index-based Flood Insurance (IBFI) is insurance that is tied to a parameter, like an amount of rainfall over a certain period of time. If the parameter is met or exceeded, the insurance policy compensates policyholders a pre-agreed amount. This means that IBFI can provide much-needed post-disaster funding very quickly – it does not rely on post-event assessment of loss for individual policyholders, which generally takes months.

Practical Action Nepal worked for several years to develop an IBFI pilot project. This was a highly collaborative effort with the private sector InsuResilience Solutions Fund, who cofunded this exploration of IBFI in Nepal. The operationalisation of this pilot was exciting, as IBFI is widely considered an innovative approach to risk transfer. In 2022, the area covered by Practical Action's IBFI pilot scheme flooded badly enough to hit one of the payment parameters. Payouts were made to policyholders within weeks, enabling them to recover from the loss of rice, a staple food and a major source of income. From the private sector perspective, this success introduced a data-driven insurance mechanism designed to provide faster and more reliable financial relief to affected farmers. Based on this demonstrated efficacy, in 2023 the Nepal Insurance Authority approved the use of the IBFI model in select river basins.

While the flood disaster was certainly undesirable, the actualised payout created trust in the product by farmers themselves and led to interest in the product from neighbouring communities and increased enrollment. Farmers invested their own funds to buy into the product, despite the removal of government subsidies. They now see this product as preferable to the more traditional indemnity insurance and promises of government compensation. Further, the successful implementation of this product has driven a demand for more information from international donors and the private sector, external donor funding for expansion into additional watersheds in Nepal, and the ambition by other Alliance teams to implement IBFI pilots in their communities.



(Top) IBFI enrolment in Belpur community in Janaki Rural Municipality, Kailali. (Bottom) Mural promoting IBFI © Chakra Bahadur Bam, Practical Action Nepal

## 7.2 Baseline shifts due to COVID-19

All Alliance teams, along with the rest of the globe, were heavily impacted by the global COVID-19 pandemic. The COVID-19 lockdowns and travel limitations limited possible activities. The pandemic itself resulted in significant shifts in government attention. However, the enabling environment created by the Foundation allowed teams to find ways to maintain relevance and visibility in their communities and among the local governments they worked with.

Key Foundation actions that contributed to maintaining an enabling environment included:

- Focusing first on the well-being and stability of partner organizations and their staff;
- Tracking contextual changes and challenges and regularly communicating to ensure common understanding of issues and manage expectations;
- Leveraging emergent opportunities through collaborative decision-making between donor and partner organizations;
- Quickly responding to budget reallocation requests to enable teams to support target communities and local governments; and
- Providing a costed 18-month extension to support teams to identify and implement long-term strategic shifts to achieve programme targets and goals.



*Community groups receiving hygiene kits during the COVID-19 pandemic in Nicaragua, June 2020*  
© Félix Rugama, Plan International

The one limitation of Alliance funds was that they were not earmarked for emergency response. Alliance teams innovated, pushing through the challenge by conducting studies to identify entry points for managing COVID-19 risk while building long-term flood resilience, and by helping local governments and communities manage the challenges arising from the pandemic as a means to build trust and strengthen relationships. The results were positive:

- Community-based groups – established by the Alliance to build flood resilience – worked with governments to manage and monitor COVID-19;
- Retrofitted flood EWS provided COVID-19 warnings;
- Alliance teams built awareness of how to reduce COVID-19 transmission during flood preparedness and response situations; and
- Alliance teams advocated to governments to account for flood risk in their pandemic-related decision-making to reduce compound risk.

More can be found in the Alliance's [‘Foundations for Change: Using adaptive management to navigate uncertainty’](#) report.

Global

# Impact story

As governments globally turned to responding to and managing the COVID-19 pandemic, Alliance country teams began to see decreased focus on flood resilience, DRR, and CCA, even as floods continued to impact the communities and countries the Alliance worked in. The recognition that the combination of floods and COVID-19 had the potential to be far more impactful and deadly than either peril alone facilitated a broader conversation within the Alliance. This led to the development of the Alliance 'Resilience in Crisis' strategy.

'Resilience in Crisis' began as a communications effort to develop and disseminate messaging that would raise alarm bells for governments, practitioners, and donors around the compound risk of floods and COVID-19. The Alliance developed a blog post, 'Laying in wait: Responding to the pandemic amidst impending disasters', and a policy brief, 'Building Back Better: Ensuring COVID-19 response and recovery builds long-term resilience to climate impacts'. These products set out grounded advocacy asks to avoid a humanitarian catastrophe, based on the implications of floods occurring during the pandemic. Some country teams also advocated for a 'green, sustainable, and resilient' COVID-19 recovery, integrating flood resilience thinking and climate change considerations.

The 'Resilience in Crisis' strategy came at a critical time when the international community was grappling with how to manage the pandemic while also responding to the climate crisis. By mobilising quickly, the Alliance was able to amplify needed messaging at the right moment and ensure COVID-19 response would have positive benefits for climate change. This strategy built Alliance credibility around multi-hazard resilience and compound risk, and teams saw their messaging on 'green, sustainable, and resilient' COVID-19 recovery being taken up internationally and nationally.



*In Monte Grande, brigade members work with the Mexican Red Cross to deliver humanitarian aid to flood affected community members © Paulo Cerino*

Plan Nicaragua

# Impact story

Beginning in September 2019, Plan International Nicaragua facilitated the establishment of community groups to help build resilience and address the lack of community social organization and leadership for disaster risk reduction. During the COVID-19 pandemic, the community groups expanded their mandate to address the impacts of COVID-19.

Working with local stakeholders, the Mayor's Office, and the Department of Civil Defense, Plan International Nicaragua organized and trained community groups in:

- National disaster laws;
- Roles and responsibilities of the groups and group members;
- Local leadership, community coordination, and community planning;
- Data use on vulnerable populations; and
- Hazard mapping.

The creation and operation of these community groups strengthened relationships between local government and communities. Further, community groups independently decided to apply the skills they had developed to build flood resilience to respond to the pandemic. Working together, with support from Plan, the local committees started informing their local health department about vulnerable migrants needing assistance to access testing, coordinating health visits to track COVID-19 cases, relaying critical information about day-to-day community life to key stakeholders, and developing strong channels of communication with local actors, the Ministry of Health, the Ministry of Schools, and the Mayor's office. Plan International Nicaragua worked with the groups to provide communities with hygiene kits and handwashing stations to reduce transmission.

This ability to pivot illustrates that participation in the Alliance's process of building flood resilience prepared these groups to act across multiple hazards. Community-led DRR is critical for strengthening resilience to multiple hazards moving forward.



*Training session for members of a Local Response Committee © Manuel Ulloa, Civil Defense*

## 7.3 Programme duration for expansion teams

Eleven new country programmes in nine new countries launched in January 2021. Compared to the other country programmes in the Alliance who launched with a five-year programme and were given an additional 18-month costed extension in 2020, these expansion teams had a four-year programme period to collect baseline community resilience measurements using the FRMC, design and implement evidence-based interventions and advocacy, and collect endline community resilience measurement, again using the FRMC. This timeline was ambitious.

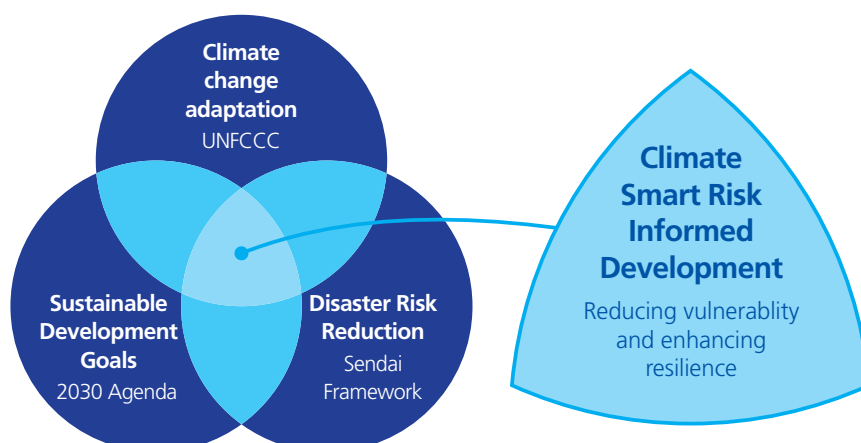
However, due to the Alliance's commitment to shared learning, Alliance expansion teams built on the extensive learning and experience of their parent organizations and other Alliance teams. They quickly implement previously tested approaches. Thus, despite the timing constraints, expansion teams reported significant successes, particularly around: 1) empowering communities to conduct resilience practices and advocate for their resilience needs, and 2) influencing the integration of community resilience priorities into local and sub-national plans.

## 7.4 Engaging beyond floods

Phase II of the Zurich Flood Resilience Alliance, as stated in the name, focused principally on floods. While there were good reasons to focus on a single hazard, for many teams this felt limiting. The focus appeared too narrow for government policies and plans, which typically address climate change, climate change adaptation, and disaster risk reduction/management more broadly. There are very few flood-specific policies. And, communities face multiple risks (drought, wildfire, heat, etc), so flood may not always be the priority. Moreover, other hazards need to be considered when addressing floods to minimise compound risk or maladaptation.

As a result, both teams working on the ground and the workstreams developing Alliance tools had to broaden their thinking. To ensure consistency across the Alliance, the global level Alliance introduced the Climate-Smart, Risk-Informed Development (CSRID) concept. CSRID brings together CCA, DRR, and development. In particular, the Alliance wanted to see spending, policy, and programming in CCA, DRR and development deliver benefits or co-benefits across all three sectors. The CSRID concept provided a framework for engaging beyond floods.

Figure 10. Climate Smart Risk Informed Development concept



Practical Action Bolivia

## Impact story

In 2023, two communities that Practical Action Bolivia worked with on flood resilience were affected by forest fires. Community brigades – established by Practical Action to support flood response – rapidly launched response operations and controlled the advance of the fire until municipal and national government support arrived. They then coordinated with government structures to raise funds for recovery. They were able to do so in part due to the trainings and improved community-government coordination facilitated by Practical Action.



*From wildfires to floods - communities work to increase resilience as hazard frequency increases in Bolivia © Freddy Barragán, Practical Action*

## 7.5 Creating local-to-global and country-country connections

The structure of the Alliance in Phase II was unique. It was designed to enable stronger advocacy, shared learning, and cross-Alliance collaboration, through strengthening local-to-global connections and country-to-country connections. This was realised, in large part, through the workstream structure, which facilitated cross Alliance engagement, learning, and capacity-strengthening.

The workstream structure proved highly valuable for identifying operational issues within and across countries that required global support. The FRMC workstream was instrumental in providing support to country teams in upskilling and implementing the FRMC. The Community Programmes workstream supported country teams through the generation of guidance and tools to help them integrate into the Alliance and move as a cohort through application of the FRMC. The MRL team used the annual reporting to identify gaps in areas of engagement and themes for learning and capacity-strengthening, and communicated these to the ALT and other workstreams.

Challenges which emerged due to misalignment between global and country level needs were responsively addressed. In particular, the Knowledge Workstream set up knowledge management and cross-Alliance communications platforms. It also held both virtual and in-person learning events (see [Impact Story 32](#)). The MRL system was crucial for collecting, collating, and synthesising stories of success and learning. Initially, the MRL workstream focused on disseminating learning to external audiences. However, both to increased internal interest, over the course of Phase II the focus intentionally shifted to a stronger focus on internal dissemination and knowledge uptake via internal communications channels. This was done through collaboration with other workstreams (e.g. the Advocacy and Knowledge Workstreams), and the co-production of success and impact stories with Alliance teams. This contributed to the cross-pollination of new ideas (e.g. using the FRMC for advocacy).

While the workstream structure facilitated engagement and learning, challenges in connecting local experiences and knowledge to global advocacy and dialogues remained. In particular, the time required to ladder up from the development of strong examples and learning at the country level to sharing of approaches to meshing with the global advocacy agenda did not match up with global advocacy needs. Therefore, it was difficult to effectively utilise the experience of country teams in global policy research products and discourses. This limitation in country-to-global connections highlighted opportunities for meaningful restructure.

Both the clear successes of the workstream structure and the challenges were key in redesigning the Alliance governance system in the Alliance's evolution to the Zurich Climate Resilience Alliance.

Global

## Impact story

In response to requests from country teams to facilitate more effective cross country learning, the Alliance held an in-person Learning Event in 2023. The Learning Event brought together 80 participants from 13 organizations and 22 countries. The majority of participants were from the Alliance and adjacent Foundation-funded programmes such as the [Urban Climate Resilience Program](#).

Initially, quarterly regional calls were set up to support cross-team learning. However, teams found it difficult to build relationships, understand different contexts, and achieve deep knowledge exchange on virtual calls and webinars. This, coupled with the diversity of work occurring within regions, made it difficult for teams to find connection points with others from their regions.

With the learning event, representatives from all global and country teams were present to connect in person. They found this particularly successful at fostering cross-regional relationships, learning, communication, and collaboration on topics like EWS, nature-based solutions, and developing decision-support tools.



Alliance Learning Event in 2023 © Michelle Pang

# 8 Sustainability

## KEY TAKEAWAYS

- Programme sustainability means that the impacts of an Alliance programme or project persist beyond the programme timeframe.
- Outside of an evaluation, assessing programme sustainability is best done using a set of sustainability proxies that, in sum, are indicative that a programme is likely to be sustainable.
- Alliance work supports the following sustainability proxies: institutionalisation of Alliance good practices and recommendations; locally embedding Alliance good practices and new ways of thinking; fundamental shifts in behaviours; critical shifts in norms and practices, local provision of resources to maintain Alliance good practices and recommendations; scaling or replication of Alliance good practices, or moving them beyond the pilot phase; and stronger, deeper, broader, and/or more collaborative relationships that support long-term coordination and inclusive decision-making.

Sustainability for the Alliance means that the impacts of an Alliance programme or project live on beyond Alliance team presence or funding. Achieving and assessing sustainability was not practically embedded into Phase II design, though sustainability was a part of the internal programme goals of all Alliance organizations. Nonetheless, the MRL data is comprehensive enough to use to retrospectively identify proxy indicators of sustainability based on the results of the Phase II programme. Proxies are necessary because the timeframe used to consider impact for sustainability is necessarily outside of Alliance programmes. Proxies are used as evidence of current changes that are indicative of sustainable impact, thereby implying programme sustainability. Sometimes, sustainability may look like no positive impact has occurred, because a negative impact has been prevented.

*This project has significantly enhanced our knowledge and communication skills. We now have access to different government departments, and our ability to communicate effectively with them has improved. Previously, we were unaware of various offices and were afraid to communicate with them. Being from the Char area, we were often overlooked and not valued. However, by participating in meetings and workshops with various departments through this project, we have become known and respected at the Upazila level. Now, regardless of which office we visit, we are listened to attentively, and they try their best to address our concerns. I now feel like a respected person in society.”*

- Md. Noor Hossain, President of Ujan Burail Community Resilience Action Group, Kapasia in Bangladesh

Any single proxy does not equal sustainability. Rather, the proxies should be considered in sum. It is assumed that if evidence of more than one of these proxies is seen, the change that has occurred will endure, function, and remain relevant beyond the lifetime of the Alliance programme with which it is currently associated. Ideally, an evaluation would also be conducted some years after the close of a programme to understand which programme impacts have endured and why. Such an evaluation would also support understanding of how external challenges (e.g. shifts in government priorities, new economic challenges, and so on) affect sustainability.

Ultimately, ensuring the sustainability of programme impacts requires actors to see the value of maintaining the changes that brought about those impacts, and for them to have the power and skills to continue implementing those changes. To ensure this, programmes need to embed changes within an ecosystem of individuals, communities, and institutions working in tandem. Singular changes involving individuals, individual agencies, or individual practices are far more at risk of obsolescence than multi-faceted changes that rely on connections across scales and sectors. The Alliance will use its understanding of sustainability and its proxies to develop an evidence-based framework to embed sustainability into the future work of the Alliance.

These proxies include:

| Changes in...                                                      | By...                                                                                | Shown through a combination of...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Behaviours<br>Understanding<br>Norms<br>Practices<br>Relationships | Community members<br>Government (local, subnational, national)<br>Other stakeholders | <ul style="list-style-type: none"> <li>- Institutionalisation of Alliance good practices and recommendations in policy documents, ways of working, and/or stakeholder roles and responsibilities.</li> <li>- Locally embedded Alliance good practices and new ways of thinking to enable their long-term continuity, management, and maintenance.</li> <li>- Fundamental shifts in behaviour such that local stakeholders are proactively addressing resilience gaps and priorities.</li> <li>- Critical shifts in norms and practice, such as increasing inclusivity in decision-making.</li> <li>- Local provision of resources (e.g. time, money, technical, in-kind) to maintain Alliance good practices and/or recommendations.</li> <li>- Scaling or replication of Alliance good practices, and/or moving them beyond a pilot phase.</li> <li>- Stronger, deeper, broader, and/or more collaborative relationships that support long-term coordination and inclusive decision-making (e.g. between communities and government, or between government agencies).</li> </ul> | As a result of Alliance inputs |

# 9 Moving forward: the Zurich Climate Resilience Alliance

In 2024, the Zurich Climate Resilience Alliance (ZCRA) was launched by the Z Zurich Foundation. ZCRA is an evolution and expansion of the Zurich Flood Resilience Alliance. It is a climate resilience programme designed around a 12-year vision, delivered in a series of four-year cycles. It works on multiple hazards with an aim to move towards multi-hazard resilience. ZCRA continues to be jointly managed and delivered by the Alliance partners: Concern Worldwide, International Federation of Red Cross and Red Crescent Societies, International Institute for Applied Systems Analysis, ISET-International, London School of Economics, Mercy Corps, Plan International, Practical Action, Zurich Insurance Group, and the Z Zurich Foundation.

Because the consortia of partners remained stable and the Foundation continued to provide multi-year funding, the Alliance was able to reexamine the impacts of Phase II and design ZCRA based on what worked best and what could work better.

In Phase II, Alliance teams set up strong foundations for building community resilience to floods via community programming, knowledge, and advocacy. These foundations were built through a deep understanding of the contexts in which the Alliance operates; enabled by the data-driven FRMC process, a highly participatory programme design and implementation approach; and the ability of teams to adapt and problem-solve in a changing environment. Underlying this was the Foundation's flexible funding approach that expects the unpredictable, and the view that unpredictability is an opportunity rather than a failure point.



FRMC grading sharing in Nepal © Mercy Corps Nepal

Now, ZCRA carries forward the legacies of Phase II and expands on three key points of focus:

Learning

Impact

Systems change

The Alliance's comparatively long timeframe was an unprecedented opportunity for **learning**. The Alliance took advantage of this by relying on institutional knowledge documented through the MRL and Knowledge Workstreams. These workstreams provided insights and learning across Alliance teams, and identified opportunities and pathways for building internal cohesion. In ZCRA, the Alliance continues to invest in MRL (which now includes the 'E' for evaluation, MERL) and Knowledge. Learning is more strongly supported in ZCRA by a new Thematic structure. The themes of focus are Adaptation Governance, Early Warning Systems, Extreme Heat, Nature-based Solutions, and Urban Resilience. This thematic structure contributes to learning by engaging and supporting country teams working on each of these themes and by making connections from local-to-global and country-to-country.

**Impact** drove Phase II of the Alliance. The Alliance approach worked so well that the Alliance goal of impacting 2 million people was achieved in 2023, before the planned programme close in 2024. Impact continues to be the main aim of the ZCRA programme, with a goal to impact at least 5.5 million people in the next four years. ZCRA's ambitions are to create sustainable, positive change and a better future for 70 million people through Alliance climate resilience programming by 2035. One of the ways ZCRA will create impact is by deepening Phase II work. ZCRA works in many of the same countries and with the same organizations, but expands the footprint of what the Alliance has already successfully established. However, a key shift has been to expand the programme and its supporting tools to encompass multiple climate hazards, focusing on floods, heat, storms, and wildfire.

By the end of Phase II, Alliance teams were achieving systemic level changes. With ZCRA there is now an intentional focus on **systems change** to achieve scaling. This is reflected in the ZCRA Theory of Change, and in ZCRA's organizational structure, with Themes driving work forward. The expansion to multiple climate hazards allows for a more realistic programme design to account for how climate systems interact to impact societal systems. The expectation of 12 years of funding has allowed teams to plan more ambitiously. Based on the learning that emerged from the MRL, it is expected that together, these changes will enable an improved and more strategic shared learning process, and better tie in local needs across scales.

Overall, Phase II of the Zurich Flood Resilience Alliance was a resounding success. The Alliance exceeded both numeric KPIs a year early, developed a significant body of resilience practice embedded in community realities, and strengthened resilience policy and funding in both country contexts and globally. Building on and expanding from this foundation, and leveraging the strengths while actively learning from addressing the challenges, the Zurich Climate Resilience Alliance is strongly positioned to exceed Alliance impact by more than an order of magnitude.



## Nuestra ruta de evacuación



CALLE PRINCIPAL

Family Emergency Plan activity led by community brigade members as part of local Resilience Fairs © Mexican Red Cross

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# Annex 1. Phase II impact briefs

Alliance country teams produced impact briefs highlighting the impacts achieved by their programmes during Phase II. These briefs are linked below.

## Concern

- [Bangladesh](#)
- [Bangladesh, Kenya, Malawi, and South Sudan](#)
- [Kenya](#)

## IFRC

- [Albania](#)
- [Costa Rica](#)
- [Honduras](#)
- [Mexico](#)
- [Montenegro](#)
- [Mozambique](#)
- [Nepal](#)
- [New Zealand](#)
- [Philippines](#)

## ISSET

- [Vietnam](#)

## Mercy Corps

- [Indonesia, Jordan, and Nepal](#)
- [Indonesia](#)
- [Nepal](#)

## Plan International

- [El Salvador](#)
- [Nicaragua](#)
- [Philippines](#)
- [Vietnam](#)

## Practical Action

- [Bangladesh](#)
- [Bangladesh, Bolivia, Nepal, Peru, Senegal, and Zimbabwe](#)
- [Bolivia](#)
- [Nepal](#)
- [Senegal](#)

## Annex 2. IIASA FRMC papers

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# Annex 3. Key Alliance knowledge products

## Alliance Phase I summary report

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For more information see the Zurich Climate Resilience Alliance Solutions Finder: <https://zcralliance.org/solutions/>

## Video resources

See the [Alliance Youtube channel](#) for Alliance videos



*Enny Aguyato Hiribae (M) and other children use a fallen tree trunk to cross a river during the dry season in Mikemani Village, Tana River County © Lisa Murray, Kerry Group, Concern Worldwide*



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