

Understanding the concepts and principles behind the CRMC approach





About this document

This guide outlines the key concepts and principles that underpin the Climate Resilience Measurement for Communities (CRMC) approach. It provides definitions of important terms, explores core ideas, and addresses frequently asked questions.

Please read alongside the [CRMC introductory document](#) and the [CRMC Glossary](#).

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Adapted from the original FRMC to CRMC by Daniela Donia, Naomi Rubenstein, and Michael Szönyi.

To learn more about the CRMC and find out how it can add value to your programmes, please email us here: info@zcralliance.org

What is the CRMC?

The Climate Resilience Measurement for Communities (CRMC) is an approach for measuring community resilience to climate-related hazards. It includes a measurement framework and an associated process and tool for implementing the framework in practice.

The framework consists of two different sets of indicators: first, a set of indicators called 'sources of resilience', which measure resilience capacities present in the community before a disaster occurs; and, second, a set of indicators called 'outcome variables', which measure the impacts of a disaster after it occurs.

The CRMC is based on the Flood Resilience Measurement for Communities (FRMC), originally developed by the Zurich Flood Resilience Alliance. The CRMC framework measures or assesses community resilience to climate-related hazards such as wildfires, storms, heatwaves, and floods.

It measures both pre-disaster resilience capacities across multiple dimensions and post-disaster outcomes when that resilience is tested by a disaster event. The CRMC includes a technology-based data-gathering and visualization tool. 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.



Alliance members engaged in training on our resilience measurement approach. Photo: Practical Action



Explaining the concept of resilience during a community workshop in Peru. Photo: Emilie Etienne/Practical Action

Who designed the CRMC?

Since 2013, the Zurich Flood Resilience Alliance has successfully been developing and implementing the FRMC approach, which has been used in over 400 communities globally.

The CRMC is the next evolution of the FRMC, meeting the increasing demand to measure resilience to multiple hazards in order to accelerate climate change adaptation. The approach has been further sharpened whilst retaining the three core elements of focusing on community, measuring resilience to specific hazards, and prioritizing community well-being and development.

The CRMC currently includes the hazards of floods, heatwaves, wildfires, and storms, and can be expanded to cover other climate

related hazards in the future. It is being applied in multiple communities through the Adapting to Climate Change programme.

Throughout the design, implementation, and redesign process, the FRMC and the CRMC have been subject to numerous reviews from NGOs, multilateral organizations, and academic experts working in the sector.

The focus is on building ex ante resilience: prevention is highly cost effective, but nearly 87 per cent of disaster-related aid spending goes into emergency response, reconstruction, and rehabilitation, and only 13 per cent towards reducing and managing risks before they become disasters.¹

¹ Kellett, J. and Caravani, A. (2013) *Financing disaster risk reduction: a 20-year story of international aid*, Global Facility for Disaster Reduction and Recovery (GFDRR) at the World Bank, Washington, DC, and Overseas Development Institute, London.

The need for climate resilience measurement

With increasing disaster damage costs and a growing recognition of the importance of putting communities at the heart of disaster risk management efforts, there has been both increased attention to strengthening community resilience and an interest in its measurement and the overall accountability of resilience initiatives.

While there are now numerous frameworks for measuring community disaster resilience, the FRMC is, to our knowledge, the most widely applied standardized framework that utilizes locally collected data. The success of the FRMC, and now the CRMC, demonstrates the value of the approach both at the local level and for supporting generalizable learnings.²

As our planet warms and weather patterns change, we are seeing more frequent and intense floods, heatwaves, storms, and wildfires. These events can take lives, cause serious injury, and inflict lasting psychological trauma. They can uproot communities, separate families, destroy livelihoods, and erase cultural heritage and sense of identity. In their aftermath, we often see ripple effects, such as increased poverty, early marriage of girls, children dropping out of school, or forced migration of men in search of work. At the same time, they damage critical systems – such as water, electricity, transportation, and communication – and devastate homes, schools, health centres, and local hospitals. With climate disasters impacting communities around the world, the need for community resilience has never been greater.

Measurement provides the opportunity to learn which characteristics truly make a difference when it comes to community resilience to climate hazards. Organizations want to develop a deeper understanding of resilience so that they are better able to orient investments and, ultimately, facilitate community development. Measurement is a critical part of this process. By measuring in multiple communities over time, we can track how resilience is changing in response to programmes and policies.



A household survey taking place as part of the T0 Study in Truong Son commune. Photo: Dao Huu Tuan, Quang Tri Provincial Red Cross Chapter

² Keating, A., Hochrainer-Stigler, S., Mechler, R., Laurien, F., Rubenstein, N., Deubelli, T., Velez, S., Szoenyi, M. and Nash, D. (2025) 'Reflections on the large-scale application of a community resilience measurement framework across the globe', *Climate services* 38. <https://www.sciencedirect.com/science/article/pii/S2405880725000238>

The definition of community disaster resilience

The Alliance defines community disaster resilience as:

The ability of a system, community, or society to pursue its social, ecological, and economic development and growth objectives, while managing its disaster risk over time in a mutually reinforcing way.³

For each hazard, this definition can be adapted accordingly. If a flood-prone community is resilient, its development will not be derailed by flooding. If a community prone to heatwaves is resilient, its development will not be undermined by heatwave events.

‘Disaster resilience’ is an outcome that ensures that a community can continue to thrive and develop in the face of disaster risk.

Hazard specificity

Resilience is context and hazard specific, and hence there is no one-size-fits-all solution to measuring resilience.









The CRMC sources of resilience are categorized into two groups: general, and hazard-specific sources, with some being unique to a single hazard only (see Table 1 for some examples). Twenty-six generic sources are universal and applicable to all hazards. Hazard-specific sources measure similar concepts that differ by hazard and are graded for each hazard.



Community members leaving village after early warning, Nepal. Photo: Practical Action

³ Keating, A., Campbell, K., Mechler, R., Magnuszewski, P., Mochizuki, J., Liu, W., Szoenyi, M. and McQuistan, C. (2017) ‘Disaster resilience: what it is and how it can engender a meaningful change in development policy’, *Development Policy Review* 35(1): 65–91. <http://dx.doi.org/10.1111/dpr.12201>

Table 1: Examples of sources of resilience across the three categories

General sources	Hazard-specific sources	Sources unique to one hazard
The impact of climate change on disaster response personnel	Awareness of how nature mitigates risk	Energy affordability 
Community financial health	Business continuity	Community firefighting resources 
Preventing family violence during disaster events	Disaster insurance	Compound disasters risk awareness 
Access to safe water	Early warning	Heatwave action-plan budget 
Energy supply continuity	Evacuation and safety knowledge	Worker protection for heatwaves 
First aid knowledge	Forecasting	Large-scale flood protection 
Continuity of healthcare	Household protection and adaptation	Compound disaster risk reduction planning 
Household access to discretionary funds	Disaster impact data collection and use in strategic planning	Awareness of unsafe water during flood 



Community leaders grading their capitals during FRMC results presentation, Mexico. Photo: Paulo Cerino/Red Cross Mexico

Community centrality

Resilience can be measured at different levels, from the individual to the country. We have chosen to focus on the community level because this is the level where disaster impacts are felt most intensely, where much action on disaster resilience needs to be taken, and the scale at which many NGOs and humanitarian organizations (including the Zurich Climate Resilience Alliance members) primarily work.

For the purposes of the CRMC, a 'community' could be defined geographically (perhaps in rural contexts) or by administrative boundaries (which may work in more urban situations). However, no single community will 'feel' like another, and there may be cultural aspects to consider, too. As a result, we have concluded that, in reality, a community largely defines itself.

No matter how the community is defined, it is critical that the study is inclusive of all members, including diverse genders, ages, abilities, and ethnic and cultural groups.

It is important to note that measurement at the community level can support decision-making and advocacy at higher levels as well. Furthermore, community resilience measurement can also inform programming and initiatives for other threats faced by the community.

The CRMC has been designed with urban applications in mind, looking at aspects such as density (population, buildings, infrastructure, etc.), diversity (of actors, infrastructure, and space), and dynamics (population growth, industry, commerce, etc.). However, it can and is also being successfully and usefully applied in rural settings.

A systems-based approach

Understanding and building resilience requires 'systems thinking'. By this, we mean understanding all the different aspects of a particular issue and how those aspects are interdependent.

Often, the way we work is not systems based – it is sector specific. For example, roads are often built without taking into account how they will affect development in risk-prone areas or considering how they will affect drainage and flooding. Systems thinking supports policymakers and practitioners to see beyond the immediate issue and consider implications of interventions in light of other development objectives, disaster risk, and future trends. For example, a project to strengthen market access informed by systems thinking would strengthen market functioning and access for many decades to come.

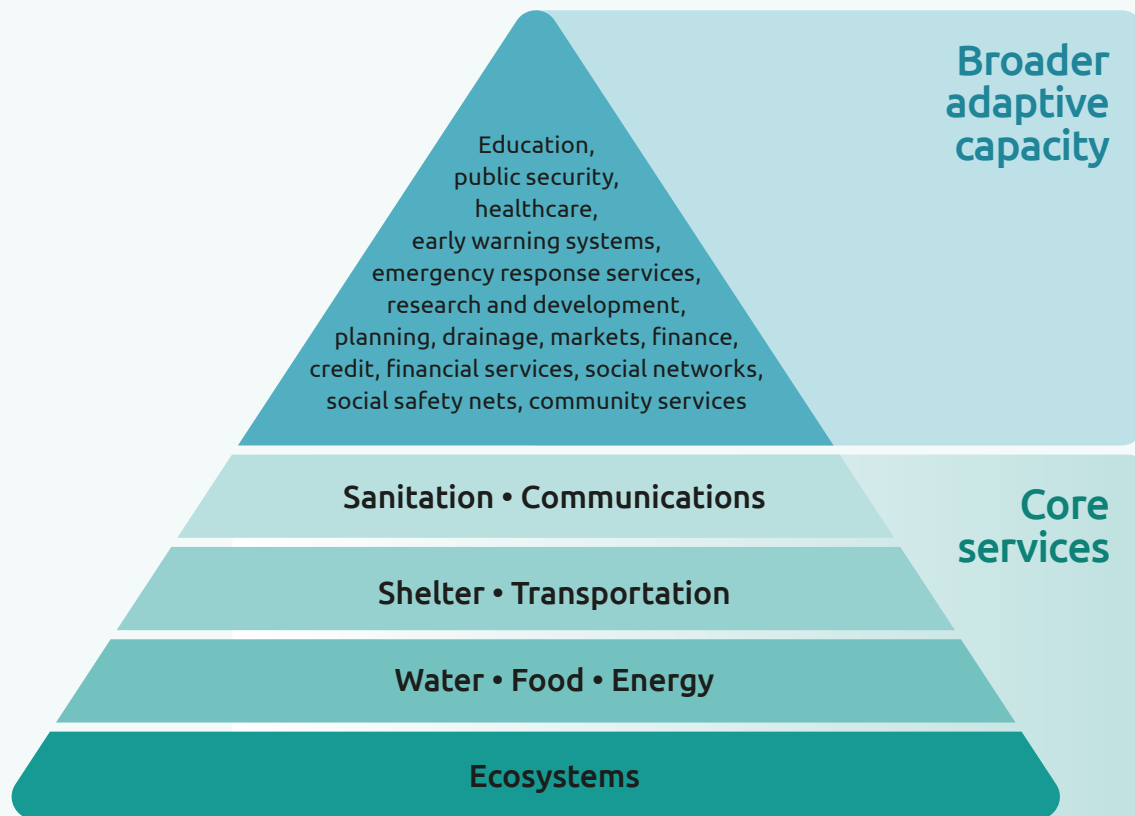


Figure 1: Hierarchy of systems in terms of their criticality for communities to survive and thrive (Source: [ISET-International](#))

Systems thinking considers interconnections. It is a powerful approach for understanding why situations are the way they are, and how to go about improving results. And it is critical in determining how systems function and reorganize when shocked or stressed.

The CRMC has been designed using a systems-based approach. It supports users to not only use systems thinking, but to act in systemic ways. The CRMC framework is holistic and integrated, and facilitates exploration of the interconnections between results. Users report that the process of implementing the CRMC builds staff capacity for systems thinking.

Moving into a multi-hazard space, systems thinking also involves identifying options that would help build resilience to several named hazards or build resilience more generally by improving underlying vulnerability, without fully turning to a 'hazard-blind' approach. In that sense, our resilience approach is still addressing the question of 'resilience

of whom to what for what purpose?' – resilience of a vulnerable community to a named hazard to ensure development is not derailed (or development progress annihilated) when these hazards materialize.

The framework and tool guide users to think deeply about the whole community system and the interdependencies within it (such as those shown in Figure 1). They also help users to visualize connections between systems at different scales (e.g. how the community links up to municipal and regional scales and down to household and individual scales).

The CRMC helps users to identify connections to other aspects of resilience and the interdependencies that create those connections. It also helps users to think about how interventions and solutions can support more than just one element or source of resilience, and helps to identify intended and unintended consequences.

How does the CRMC work?

The CRMC is what is known as an indicator-based framework. This means that it collects data to assess indicators, which in the CRMC are called 'sources of resilience'.

The CRMC consists of 26 'general' sources of resilience that are measured only once per community, regardless of the hazards included in the measurement. For each additional hazard, roughly 25 more 'hazard-specific' and 'hazard-unique' sources of resilience are added. For example, using the CRMC to measure community resilience to heatwaves includes 50 sources of resilience, while using it to measure heatwave and flood resilience includes 76. These sources of resilience are measured in 'normal'/ non-disaster times, and a set of post-event variables are measured after a disaster event (discussed in [Post-event studies](#)).

The framework underpinning the CRMC is the 5C-4R framework. The sources can be grouped by the five complementary capitals (5C) or by four properties derived from resilient systems thinking (4R) see Figure 2. Both the capitals and resilience properties support thinking about the diversity of conditions needed to build capacity to avoid the creation of new risk, reduce existing risk, and to prepare for, withstand, and respond to shocks in a way that supports the community's development objectives. Data are collected on each source of resilience, and trained graders use these data to assign a grade between A and D for each source.



A focus group discussion taking place as part of the T0 Study in Thuan commune. Photo: Nguyen Xuan Duong, Quang Tri Provincial Red Cross Chapter

The 5C-4R framework

The five capitals (5Cs) lens:



Human: education, skills, health.



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



Physical: the built environment and infrastructure, such as buildings, roads, utilities, and communications systems, that support the functioning of the community.



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 four properties (4Rs) lens:



Robustness: ability to withstand a shock, for example, housing and infrastructure designed to endure a storm, or measures to protect a household from heatwaves.



Redundancy: functional diversity, for example, having multiple evacuation routes and diversified sources of energy supply.



Resourcefulness: ability to mobilize when threatened, for example, a group within a community that can quickly mobilize to convert a community centre 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.

Figure 2: The 5C-4R framework



View from Shkodra Castle on the Obot. Photo: Red Cross Albania

To use the CRMC, users log on to the web-based platform and set up a community study. They choose which data collection methods (household survey, focus group discussion, key informant interview, or secondary source data) they wish to use for each source of resilience, based on the community context, taking note of data triangulation needs and balancing this with time and capacity constraints to obtain the information.

The system then sends surveys to field worker mobile devices for data collection, or creates online surveys, depending on the project lead's choice. Once data are collected, they are automatically uploaded to the CRMC web platform, where they are collated. Users who have been trained in assessment then compare the collected data to the grading rubric for each source of resilience, using this to grade the sources of resilience from A to D.

The system generates measurement results that users then use as inputs into resilience intervention decision-making at

the community level – potentially hazard by hazard, but identifying synergies between them or with underlying vulnerabilities using systems thinking, as explained earlier.

Results can be explored in multiple ways via a 'tagging' system by which each source of resilience is coded for different lenses of analysis, including the 5Cs and 4Rs previously mentioned, as well as other lenses. We grade each source of resilience based on the quantitative and qualitative data points and the benchmarks for best practice. Figure 3 summarizes the process of using the CRMC.

As a default, each capital group of sources is weighted equally (20 per cent of the final grade goes to each capital group). Within each capital group, sources are also weighted equally. We have structured it this way because some capital groups have more sources than others. There is currently no empirical evidence to support a larger weight for any sources over others, although part of the programme is to explore this question.

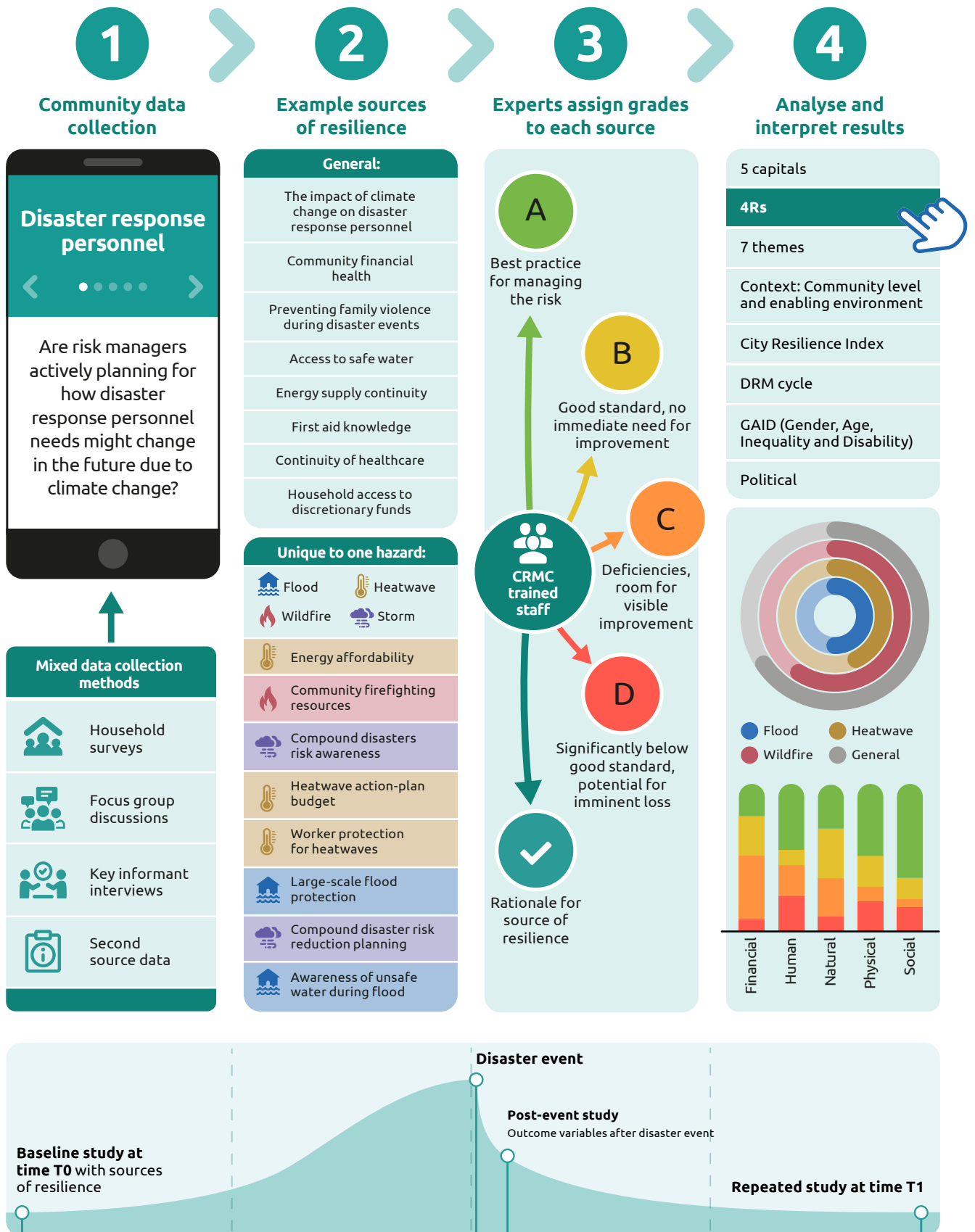


Figure 3: Schematic of the CRMC process (Source: adapted from Laurien and Keating, 2019)⁴

⁴ Laurien, F. and Keating, A. (2019) 'Evidence from measuring community flood resilience in Asia', *ADB Economics working paper series 595*. <https://zcralliance.org/resources/item/evidence-from-measuring-community-flood-resilience-in-asia/>



Discussing resilience measurement results with the community. Photo: Madhab Uprety, Practical Action

Post-event studies

To understand which sources of resilience actually enable resilient outcomes after a disaster has occurred, we need to collect information on how the community fares in the event of a disaster so that this can be compared with pre-event characteristics (the sources of resilience).

The post-event study is structured in the same way as the framework that assesses the sources of resilience; however, it measures impacts and outcomes of a disaster event instead. The post-event study is usually carried out between three and six months after the disaster. The results provide a comprehensive and structured disaster impact assessment. The post-event study can also help user organizations, communities, and key stakeholders to analyse how actions before, during, or after the event affected damage and recovery, thereby giving them more confidence in future decision-making.

The post-event study is essential for the global effort on community resilience research (see [Empirical validation](#) below).

Who can use the CRMC?

The CRMC can be used by any organization concerned with community resilience to climate-related hazards in a not-for-profit context. This includes NGOs, other civil and humanitarian organizations, and government authorities. Critically, the CRMC has been designed so that it is as broadly applicable as possible. It can be applied in both developed and developing countries, in urban, peri-urban, and rural settings. It can be applied in communities facing all types of flood threats, such as coastal, riverine, or flash flooding, as well as heatwaves, wildfires, and storms. Anyone can complete the expression of interest form found in the [CRMC introductory document](#).

Can sources be added or removed?

All sources relevant for the selected hazard(s) must be graded in the CRMC process, which means data must be collected to inform this grading. All data and grading information are saved in the central database. It is possible for users to define their own additional local questions to inform CRMC sources and/or collect additional information.



CRMC result sharing in the Gulariya municipality ward. Photo: Ashok Chaudhary, BEE Group partner of Practical Action

Using CRMC results

The CRMC is one input into a broader, participatory process of intervention design and implementation. It is designed to complement (not replace) existing processes, such as vulnerability-capacity assessments or participatory cost-benefit analysis. It is not designed to prescribe a methodology for community or stakeholder engagement, but does support a participatory approach. The data collection process has been designed so that it works alongside existing participatory processes.

Communities and key stakeholders play a central role in the CRMC process and must be engaged throughout the process. How a user organization engages with the community and key stakeholders will vary, but it is essential that they see a benefit in the process and are willing to take part. While some of the more technical details of the framework may not be accessible to all community members or stakeholders, it is the responsibility of the user organization to ensure they understand and can engage with the process and results.

CRMC results do not tell users which intervention to select. The measurement tool helps to identify potential areas of strength and weakness; however, choosing an intervention is a much more complex process, which must consider multiple factors and perspectives. CRMC results are discussed with the community and key stakeholders, and, through this process, focus areas for strengthening resilience are identified. These are then worked through programme systems to develop interventions.

There may be a temptation to gravitate towards interventions that it is believed will increase the resilience grade with the least amount of money, time, or effort. While one of the benefits of the CRMC is that it might identify relatively cost-effective 'quick wins', it should never be the case that the objective of the intervention becomes to increase the resilience grade per se. Choosing interventions is a complex process that needs to consider a number of different factors and perspectives. It is up to the assessment team to work with the community and key stakeholders to understand the opportunities for building resilience highlighted by the results and to help them identify and prioritize actions for which resources and commitment are available.

It is worth noting that there may be interventions that influence more than one source of resilience or hopefully even more than one hazard at a time, where improvements are desirable and feasible. Likewise, it might take more than one intervention to see grades increase, and there are always external factors outside of the immediate programme control to consider.

Last but not least, the discussions in the community about the results and subsequent intervention brainstorming may yield a set of interventions that cannot be tackled by the project or need other stakeholders' support, such as local or regional governments. This is absolutely fine and may lead to an advocacy strategy to socialize the potential benefit of these interventions.



Workshop for community members to prioritise interventions, Bangladesh. Photo: Md. Ohidul Islam/Concern

Two time frames of pre- and post-disaster measurement

Before an event, resilience is a latent characteristic of the community. The actual resilience is revealed in the community's ability to withstand or quickly recover, learn, and grow stronger from the disaster event. It is not until after the disaster that we find out if the community was resilient, but it is before the disaster that we want to know whether it is likely to be. This is the problem of two time frames.

The CRMC tackles this problem by measuring at both time frames: the sources of resilience aim to measure the latent characteristics of resilience, while the post-event study measures the outcomes of that resilience. Alliance researchers are linking ex ante and ex post results via the empirical validation process.

The CRMC is not a monitoring and evaluation tool

The CRMC is not intended to be a project or intervention evaluation framework that will be used by external assessors to evaluate a project's efficiency or effectiveness. Rather, it is intended as a fully integrated framework and tool that will be deployed at various stages of a long-term (multi-year) community resilience-building programme to support decision-making and generate evidence about how resilience in a community changes over time. Some individual sources or raw data questions may be extracted to inform a broader Monitoring & Evaluation process.

Making comparisons

The CRMC has not been designed to be a competitive tool to compare the performance of communities. Overall resilience scores should not be compared across communities, nor should individual sets of strengths and weaknesses of communities be used to demonstrate good/strong/resilient or bad/weak/not resilient communities. The CRMC simply provides information about change and the direction of the journey for the communities themselves, relative to where they started and where they want to get to. The numbers/grades and the quantitative aspects of the CRMC are a progress guide, not the outcome. Although the results should not be used for comparative purposes, past users have found it very rewarding to connect with other teams across regions, and indeed globally, to share and learn about their experiences.

Numbers should not be used as absolutes but, rather, as relatives indicating a trajectory over time. While communities should not

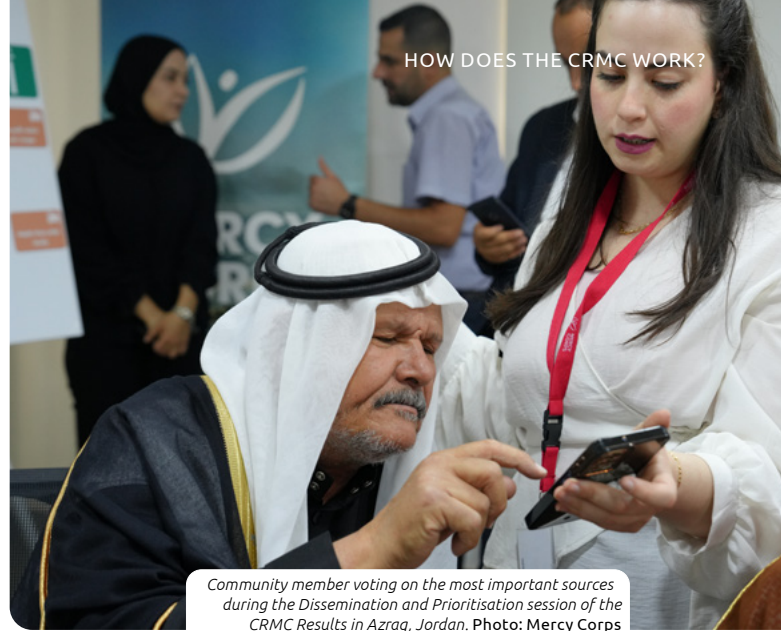
be compared in a competitive sense, it is possible to aggregate and then analyse results across groups of communities in the 'data cockpit' function of the CRMC at the results analysis stage. This type of aggregated analysis could be used to link the community level to higher administrative levels and hence understand the situation across a region or identify synergistic interventions that benefit several communities with the same or similar resilience issues they want to tackle. Alliance researchers are also using aggregate data to map community resilience, identifying averages, clusters, outliers, and trends or recurring aspects.

Managing measurement bias

*'When we try to measure what is important, we make important what it is that we measure.'*⁵

A bias – sometimes called circular reasoning – occurs when we define what resilience is, measure it, make interventions based on that measurement, then measure again and say 'resilience has increased'. Circular reasoning bias is a significant concern for any resilience measurement approach. We cannot escape it; instead, we must recognize and manage it.

The CRMC does not claim to be a definitive measure of community disaster resilience. It is an informed perspective on the factors that likely contribute to community disaster resilience. The sources of resilience can be thought of as proxies for resilience capacities. Users are encouraged to consider results critically and not assume that a source is important for resilience in a particular community simply because it



Community member voting on the most important sources during the Dissemination and Prioritisation session of the CRMC Results in Azraq, Jordan. Photo: Mercy Corps

is in the CRMC. Similarly, there are likely many other factors that are important for community disaster resilience that are not measured in the CRMC, and users should not discount their importance simply because they are not measured.

Empirical validation

By measuring at two time frames – both sources and outcomes – in many communities over time, Alliance researchers are finding empirical evidence for which sources of resilience best influence outcomes. These insights can then inform the ongoing improvement and refinement of community resilience measurements.

In addition to pre-event resilience grades and disaster outcome data, when grading, users are asked to comment on the relevance of each source of resilience for each community and their confidence in the grade assigned. By utilizing raw data, grades, and relevance/confidence feedback, Alliance researchers hope to generate evidence that certain sources of resilience are critical across multiple contexts. The researchers are utilizing multiple statistical techniques to generate empirical evidence for the impact of the sources of resilience to also better understand which elements actually help strengthen resilience based on overall evidence of grade changes, interventions, and post-event outcomes.

⁵ Levine, S. (2014) 'Assessing resilience: why quantification misses the point', *Humanitarian policy group working paper*. ODI, London.

User feedback and validation

If the CRMC approach is to be robust and useful, it must align with communities' and resilience practitioners' understanding of what constitutes community disaster resilience, and it must be practical in the field. This is important for two key reasons. First, communities are the true experts on their own resilience, and practitioners/users can capture and amplify that expertise since they work directly with communities prone to climate-related hazards. Practitioner endorsement of the CRMC contributes substantially to validity. Second, for the CRMC tool to be useful for users, it should make sense to them. Researchers within the Alliance work with users to incorporate community and practitioner perspectives.

Data storage and ownership

The CRMC tool data are collected in a central database. This is done for a number of reasons. First, the web application and linked mobile application are structured such that they run through a central server. Second, a central database means the data are safely stored in one place. Third, a central repository allows the development team to review the full set of data available and use it to improve the CRMC in the future. Finally, the data collected in the central database are enabling extensive and innovative empirical analysis of the critical sources of community resilience.

Only authorized users of the system can access the data, and then only at the level of their authority. At the highest level of supervision is a role we have labelled 'Trainer'. This is effectively the local organizational expert who has responsibility for allocating work to others. The next level down is 'Local Project

Leader', who works with the communities assigned to them. Finally, there is the role of 'Field Worker', who can only collect and upload data, using a mobile device, for the questionnaires they have been allocated.

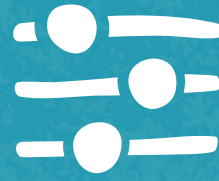
One further role exists: the role we label 'Researcher'. This role is a specialist position that provides access to the entire database for all countries and users, for analysis purposes.

All respondents are asked to provide informed consent before information is collected. Nonetheless, all data that go into the system are anonymized. Because we do not collect identification data from community members, no individual can be identified from the data (either in raw or aggregated form).

The issue of data ownership is a complicated one. Through access controls, we can make sure that only authorized users have access to data, and then only to the extent of their authority. This authority will be exercised to conduct and compare analyses at the level of the organization and for research associated with community disaster resilience. None of these uses are detrimental to the ultimate owners of the data (the community). However, to use the data in this way, there is a responsibility on all users to ensure informed consent has been obtained so that the community is aware of the way the data will be used.



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Keep in touch...

Write to info@ZCRAlliance.org,
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Intellectual Property note:

a) Since 2013, the Alliance has successfully been developing and implementing the Flood Resilience Measurement for Communities ("FRMC") approach, which includes the underlying framework for measuring community flood resilience, the software to apply the framework (the FRMC tool) and associated training materials, which has been used in over 400 communities globally. The development and writing of the training materials including the user guides has been the joint work of the Alliance.

b) The Climate Resilience Measurement for Communities ("CRMC") is the next evolution of the FRMC, meeting the increasing demand to measure resilience to multiple hazards in order to accelerate climate change adaptation. The typology has been further sharpened whilst retaining the three core elements of community centricity, hazard specificity and development focus. The CRMC has been developed as a product of the Alliance.

c) The software: The FRMC and CRMC software has been developed and is maintained by Zurich. Currently, the software includes the four hazards developed for the framework and implemented by Zurich through the software provider, floods, heatwaves, storms and wildfires, and can be amended from time to time as appropriate as new technology becomes available or further climate-related hazards are added.

d) The data: All data are collected in accordance with ethical data collection practices, and are anonymous at the individual and household levels. The data within the tool ultimately are controlled by the organizations that collected it. As a condition of using the framework, all organizations have agreed that data will be stored in a central database and be used for research purposes. User organizations can download all of their data at any time.

e) Use-rights: The Foundation and the Alliance are keen for the CRMC to be used as widely as possible. Existing partners are encouraged to expand use of the tool within the remit of their work.

Photo credit front cover: *Boats serve as transport during floods, Jonuta, Tabasco.* Photo: Michael Szönyi, Z Zurich Foundation

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