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About this document

Flood resilience is critical for flood-prone communities; flooding literally washes away development gains. However, devoting limited funding to responding and rebuilding after floods is unrealistic and inefficient. Instead, building flood resilience should be part of development. This means doing development in a way that avoids the creation of new risk, reduces existing risk, and ensures that flood-focused initiatives have co-benefits for development.

The Flood Resilience Measurement for Communities (FRMC) approach contributes to achieving this goal: it provides up-to-date information to inform decision-making and helps to identify the possible areas for intervention thanks to discussions among communities and stakeholders, with the support of practitioners.

Discussing the results of the FRMC with the community should empower them to take ownership of their flood resilience path, identify what flood resilience means to the community members, and ultimately what they need to do to get there. This is more important than finding an 'optimal' intervention; without community ownership, interventions will not be sustainable beyond the life of the project. It is also essential to think carefully about what results to share with the community and different stakeholder groups, and in what form; it is of little help to talk only about weaknesses and areas that have a lot of room for improvement.

That is why this guidance aims to help practitioners to analyse FRMC results, along with other information, as well as share and discuss results with communities and other relevant stakeholders. This analysis will help us to better understand the community's strengths and weaknesses regarding flood resilience, and identify, prioritize, and plan possible interventions through a participatory process with the community and relevant stakeholders.

It is important to keep in mind that FRMC results are just one source of information to consider when deciding on interventions – other important considerations are community priorities and vision of development, historic experiences, hazard exposure and vulnerability, available funding, available expertise, and local stakeholder priorities, among others.



Abel from Practical Action interviewing Consuelo who lives in San Mateo, Peru, as part of data collection.
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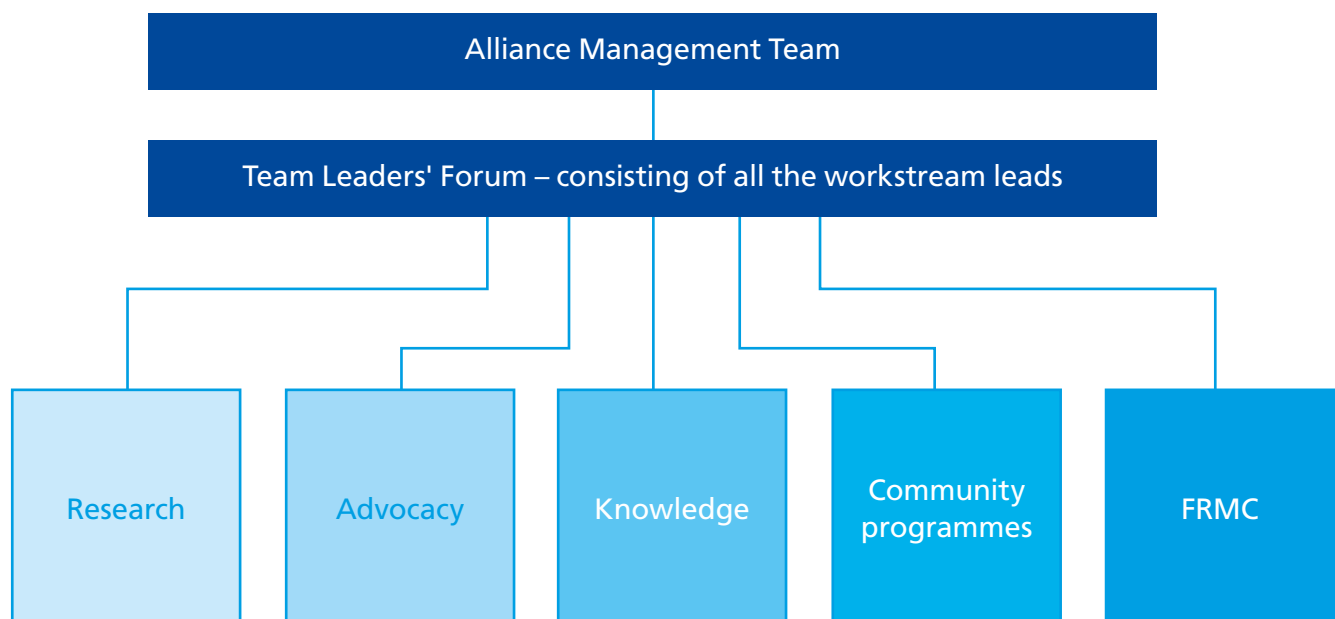
The Zurich Flood Resilience Alliance

Zurich Insurance Group (Zurich) launched a global flood resilience programme in 2013. The programme aimed to advance knowledge, develop expertise, and design strategies to help communities improve their ability to deal with the impact of floods, and build resilience to floods.

To achieve the programme's goals, Zurich formed a multi-year, interdisciplinary alliance (the Zurich Flood Resilience Alliance) to bring in complementary skills and expertise from different organizations. This enabled us to link academic insights, humanitarian sector capabilities, and risk management expertise to improve community resilience to floods.

Zurich works with the humanitarian and civil society organizations Concern Worldwide, the International Federation of the Red Cross and Red Crescent Societies (IFRC), Mercy Corps, Plan International, and Practical Action, as well as research partners the International Institute for Applied Systems and Analysis (IIASA), the London School of Economics, and the Institute for Social and Environmental Transition-International (ISET). Please visit www.zurich.com/flood-resilience and www.floodresilience.net for more details.

The Alliance works in the following areas, with a multi-organizational work stream for each:



Why floods?

Floods affect more people globally than any other type of natural hazard.

And the situation is getting worse, with:

- Increasing population, urbanization, and economic development in hazard-prone areas;
- Increasing loss of life and economic and insured losses due to floods;
- Increasingly interconnected and interdependent flood risks.

Why resilience?

We find: every US\$1 invested in prevention saves \$5 in future losses.¹

But: only 13 per cent of aid spending goes into pre-event resilience and risk reduction; 87 per cent goes to post-event relief.²

We define 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

Why measure?

Measurement enables us to assess and demonstrate the real impact of improvements. Since there was no global framework available to do this, we needed to develop a consistent Flood Resilience Measurement Framework and the tools to implement it.

Also, if we have a measurement framework and data, we can contribute to the evidence on how to define resilience. In turn, this will help to increase social, political, and financial investment in building flood resilience.

Why focus on communities?

While acknowledging that national and global drivers play a significant (and essential) part in building flood resilience, we have chosen to focus on the community level. This is the level where flood impacts are felt most immediately and where much action on flood resilience can be taken. It is also the level where we can demonstrate tangible impact on people's lives, creating best practices in the field that can help us shape and influence policy at a higher level.



1 Mechler, R., Czajkowski, J., Kunreuther, H., Michel-Kerjan, E., Botzen, W., Keating, A., McQuistan, C., Cooper, N., and O'Donnell, I. (2014) 'Making Communities More Flood Resilient: The Role of Cost-Benefit Analysis and Other Decision-Support Tools in Disaster Risk Reduction', *White Paper*, Zurich Flood Resilience Alliance.

2 Kellett, J. and Caravani, A. (2013) *Financing Disaster Risk Reduction: A 20-Year Story of International Aid*, London: ODI; Washington, DC: Global Facility for Disaster Reduction and Recovery at the World Bank.

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>>.

The Flood Resilience Measurement for Communities

The Flood Resilience Measurement for Communities (FRMC) comprises two parts: the Alliance's conceptual **framework**⁴ for measuring community flood resilience, and an associated tool for implementing the framework in practice.

The second component of the FRMC – the **tool** – is a practical hybrid software application comprising an online web-based platform for setting up and analysing the process and a smartphone- or tablet-based app that can be used offline in the field for data collection.

In this publication we guide you through **steps 9 'Analysing the results' and 10 'Sharing the results with the community' of the FRMC process.**

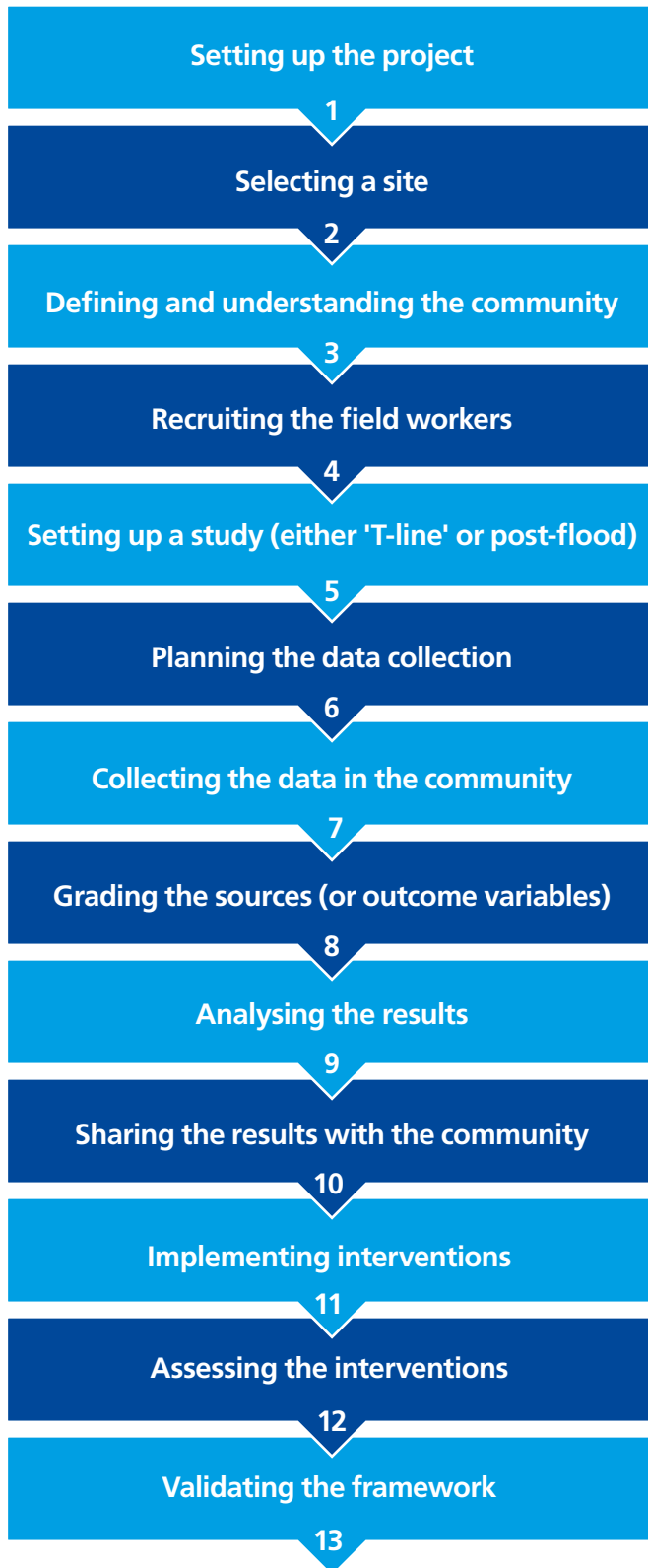
The FRMC process is often part of a wider community disaster risk reduction programme and does not stand alone. Certain parts of the process such as project setup and community engagement are meant in the wider sense of the community project, and not just about implementing the measurement using the tool.




After the flood, Lima, Peru. © Fidel Carrillo

⁴ For more information on the conceptual framework, please see the FRMC overview: <https://www.floodresilience.net/resources/item/the-flood-resilience-measurement-for-communities-frmc>


The FRMC process




The FRMC tool




- Set up measurement activities
- Select data collection methods
- Assign them to field workers' smartphones




- Collect data based on assigned methods
- Store the data offline
- Send the data to the web application when the job is completed



- Consolidate all data for the assessment
- Assign grades using the assessment methodology



- Visualize and analyse the measurement results
- Access guidance on how to interpret the results



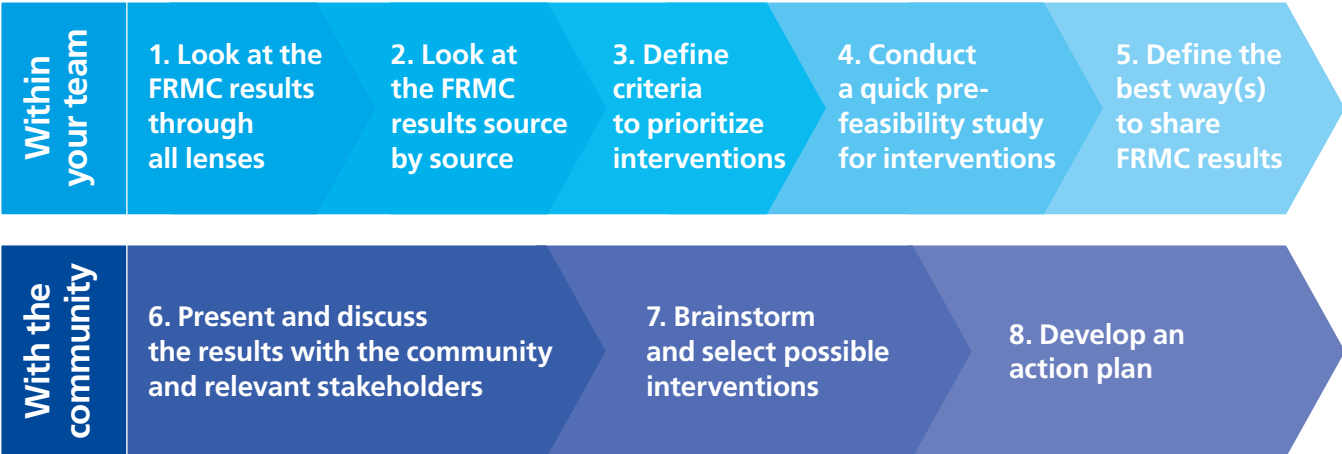
- Store the resilience measurement results for comprehensive analysis and validation



Content of the guidance

The FRMC results analysis and intervention planning consists of two stages. In the first stage, the analysis is done internally by the practitioner team, to better understand the results and define the best way(s) to share them with the community and other stakeholders. In the second stage, results are shared with the community and relevant stakeholders and used to develop an action plan.

In the first stage, the analysis is done internally by the practitioner team, to better understand the results and think about the best way(s) to present and discuss them with the community and other stakeholders. This first stage also includes a pre-mapping of possible interventions and a pre-mapping of criteria to prioritize interventions. In the second stage, we suggest activities with communities and relevant stakeholders to discuss the results, identify interventions, start planning implementation, etc.



Note that these steps, although presented linearly, are not linear in practice. Designing and prioritizing interventions is an iterative process and will be a key part of your community programming work. It is likely that you will keep coming back to the FRMC results, discussing them with the community, and exploring new ideas for interventions.

You will also likely reprioritize previously designed ideas, and conduct pre-feasibility studies as your local context changes, you build new relationships and partnerships, and new information becomes available.

Interpreting FRMC results to inform interventions planning

Definitions and general tips

The FRMC is a decision-support tool, which means it provides one input into the wider process of designing flood resilience-building interventions.

An intervention is an activity or group of activities that builds community flood resilience. It can be a piece of **hardware** (e.g. a platform for poultry to take refuge on); a **technique** (e.g. digital risk mapping); a **tool** (e.g. an online app); a **method or approach** (e.g. developing community disaster management committees); a **system** (e.g. an early warning system); or **infrastructure** (e.g. a multi-purpose shelter or bio-dyke).

An intervention is *not* every interaction that the practitioner has with the community (e.g. a workshop, a meeting, or a training session). If trainings are delivered as part of a long-term strategy, for example on first aid or specific types of livelihoods, then this can be considered an intervention as long as it is targeting a specific source (or sources) of resilience.

Most interventions will be related to more than one of the 44 sources of resilience, and maybe even touch upon more than one theme or capital, for example. More than one intervention may be necessary to successfully enhance the communities' resilience. A reforestation initiative may not work without addressing the root cause of deforestation (which may be energy access or a financial purpose) or teaching the community (social and human capital) how to maintain their natural capital. What is important to remember is that social and human aspects are just as important as physical, financial, and natural ones.

The FRMC results – which can be viewed in the data cockpit (see the FRMC: User Guide for more information on how to use the data cockpit)⁵ – can be explored to identify the community's most critical flood resilience needs, and opportunities.

This is done by looking at areas of strength and weakness, the interactions that exist between them, and thinking about where opportunities lie for addressing issues of concern to the community.

In doing this, be careful not to confuse all high grades and scores as opportunities and all low grades and scores as needs. Not every strength is an opportunity, nor is every weakness a need. Sometimes a low grade is not a need because it is not possible to increase it in this context, for example natural capital in a highly urban area. Low grades may be ignored if it is simply not possible to address them, or if they do not seem relevant to this community's flood resilience capacity. Sometimes it may also make more sense to focus on improving on a B or C grade than a D grade. This is because D grades may be due to entrenched issues that cannot be addressed by the project, but C grades indicate that something rudimentary is already in place that could be built upon. That is why the interactions between strengths and weaknesses in the context of a particular community will make different aspects an opportunity or need. Strengths and weaknesses can be viewed according to the different lenses, or at source level.



Cluster workshop in Sudarganj, Bangladesh
© Md. Ohidul Islam, Concern Worldwide

⁵ For more information on the how to use the data cockpit, please see the FRMC: User Guide: <https://www.floodresilience.net/resources/item/flood-resilience-measurement-for-communities-user-guide>

Exploring strengths and weaknesses in a number of different ways makes it possible to get a full picture of a community's flood resilience profile.

It is important to explore the results across all the lenses, even the ones your team might not be as familiar with, in order to build capacity.

For example, in Phase I of the Alliance, this process helped organizations that had always focused on preparedness to implement innovative interventions on prospective risk reduction (avoiding risk creation), such as advocating for the need to consider flood risk when doing development planning.

Similarly, it helped organizations that had focused on building mitigation infrastructure to include human and social capital elements in their interventions, ensuring that they had better uptake and sustainability within the community.



Knowledge exchange between teams from the Mexican Red Cross and Plan International to define the best ways to use the FRMC tool © Plan International

Example of leveraging strengths to address weaknesses

In Phase I of the Zurich Flood Resilience Alliance (ZFRA), Concern Worldwide applied the FRMC in an area of rural Afghanistan. Almost all the residents of this cluster of 12 communities were poor or very poor farmers, practising unsustainable cultivation on marginal land vulnerable to extreme weather.

When exploring the FRMC results by capital, the Concern team noted that while the majority of social, financial, physical, and natural capital sources were graded D, human capital fared marginally better, with 44 per cent of sources being graded C.

When exploring the FRMC results by the disaster risk management (DRM) cycle, the Concern Worldwide team noted a particular weakness in regard to corrective risk reduction. The team knew that the lack of flood mitigation infrastructure protecting roads was causing the community to be cut off during floods, and that this was a major problem in the community.

The Concern team combined these two results to inform their intervention design. **Relatively strong human capital was leveraged to address the weakness in corrective risk reduction.** The final intervention (after consultation with the community) put in place small-scale flood risk reduction infrastructure. These strategies are managed by community disaster management committees and use locally sourced materials and existing community knowledge to ensure the sustainability of the intervention beyond the life of the project.

In summary, when analysing FRMC results, these general principles need to be considered:

1. The FRMC does not generate interventions; it highlights opportunities and critical issues that need exploring by the community before any intervention is agreed.
2. Information generated through the FRMC process is not by itself enough to fully understand the community. Results need to be complemented with information from other participatory tools such as vulnerability and capacity assessments (VCAs), transit walks, and participatory risk mapping.
3. The FRMC promotes systems thinking: sources should not be looked at in isolation and lenses should be used as much as possible.
4. Organizations can address a range of different scores and grades (A, B, C, D) emerging from the FRMC results and should explore interconnections between them. (For example, how can existing strengths be used to improve some weaknesses?)
5. It might not be possible or relevant to address all the low scores or grades of a community.
6. The FRMC analysis and planning is an iterative process and is not linear.
7. The FRMC can be used to compare two points in time in the same community but should not be used to compare communities with each other.
8. The FRMC is a decision-support tool with decisions regarding intervention prioritization and planning taken with the community.

The following questions will guide you to make sure that you think about each of these principles during the FRMC results analysis:

- a. How will FRMC results be used to identify issues that affect community flood resilience?
- b. What other sources of information (VCAs, risk maps, etc.) could help you to select resilience entry points or prioritize interventions?
- c. Which sources/capitals/context/Rs/themes/DRM cycle elements can be (directly or indirectly) impacted by action in other sources/capitals/context/Rs/themes/DRM cycle elements?

- d. Are there sources with B, C, and D grades that can be improved by leveraging sources with A and B grades? For example using human capital – people and their skills – to improve natural capital, by planting trees to stabilize the riverbank or improve a water source.
- e. Are there sources that you will not be able to move/improve the grades of? For example, something for which there is currently no entry point (i.e. it requires governance and the government is dysfunctional).
- f. Which sources would you like to focus on? Why? (Do not focus only on sources with C and D grades). What sources (capitals/context/Rs/themes/DRM cycle elements) do you think the community will prioritize? (If you are doing this exercise before talking with the community). Do not get trapped in the problem of circular thinking (see box on page 12).

Questions to ask while conducting a quick pre-feasibility study for interventions:

- a. Based on community resources and your organization’s resources, which interventions are feasible? Are there interventions where you see a particular opportunity to engage? That is, there is political will, you believe you could get additional donor funding, or there is another organization you could collaborate with, etc.
- b. Are there partnerships you could put in place with other organizations that would allow you to consider other interventions?
- c. Could any of the interventions you have focused on result in negative impacts?
- d. How confident is the organization in pre-identifying the intervention that it would be the right intervention to address the overlying resilience issue? What criteria and evidence is used to support this?

The problem of circular thinking

‘When we try to measure what is important, we make important what it is that we measure’ (Levine, 2014)⁶. ‘The most significant weakness of an inductive method to resilience measurement is the circular logic of such an approach: “If we define *a priori* the variables that lead to system resilience, then our conclusions will be largely driven by our initial selection of variables”’ (Cumming et al, 2005).⁷

The problem of circular reasoning is that you may believe that a source of resilience is important simply because it is in the FRMC and you have measured it. You then implement interventions to build this source, measure again, and believe you have built resilience. However, will this source really make a difference when the flood comes? We can only truly know this after an event. However, what you can do to avoid this problem is to be critical about the sources of resilience. Ask yourself whether, from all the information you have from the community, you think building this source of resilience will actually make a difference when the flood comes.

Similarly, just because something is not in the FRMC that does not mean it is not important. There may be something very important for flood resilience in this community that the FRMC has not captured. This is one reason why you are encouraged to look at the lenses as well as the sources and other available information – you might be able to build flood resilience by doing something that does not directly target particular sources, but was highlighted by a lens-level analysis or by another source of information such as VCAs.

6 Levine, S. (2014) ‘Assessing resilience: why quantification misses the point’, *HPG Working Paper*, Overseas Development Institute, London, UK, <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9049.pdf>

7 Cumming, G. S., Barnes, G., Perz, S., Schmink, M., Sieving, K. E., Southworth, J., Binford, M., Hold, R. D., Stickler, C. and Van Holt, T. (2005) ‘An Exploratory Framework for the Empirical Measurement of Resilience’, *Ecosystems*, 8: 975–987.



FRMC result sharing workshop in Hatibandha, Bangladesh © Md. Ohidul Islam, Concern Worldwide

Suggested stages and steps to analyse results and plan interventions

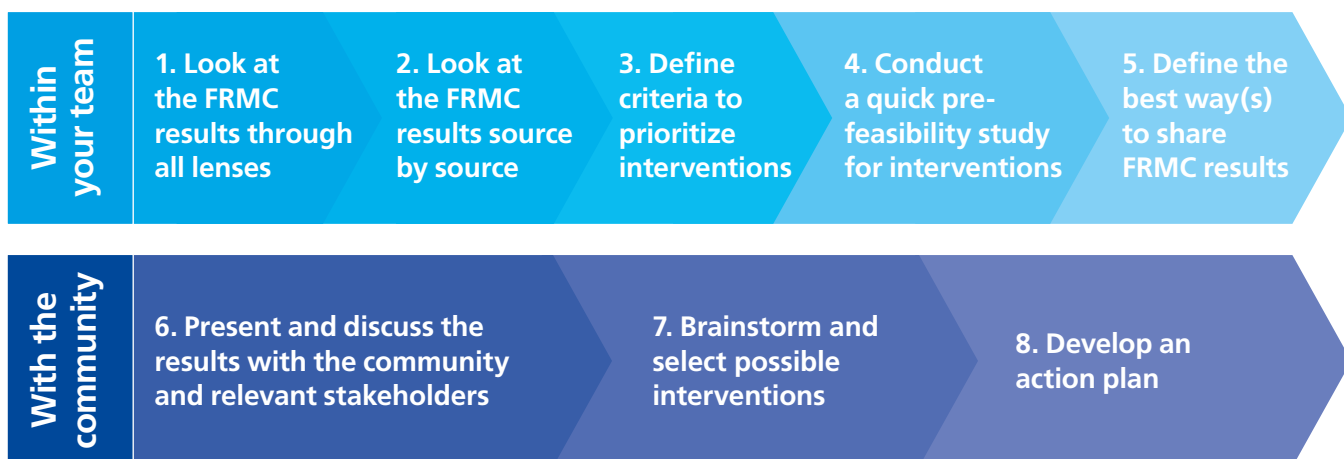
The following sections offer a series of activities to guide you step by step from the FRMC results analysis to intervention planning. The steps are divided into two main stages: the first stage is done internally by the practitioner team, while the second stage involves the community and relevant stakeholders.

Stage 1: Activities among country team members

The overall objective of the activities among team members is to prepare to work with the community. Team members should not reach agreement about interventions without involving the community.

The activities among team members aim to:

- Understand the FRMC results (*Steps 1 and 2*).
- Define criteria to prioritize interventions (*Step 3*).
- Pre-map possible interventions, to inform the community about the range of possibilities they have to improve their resilience (*Step 4*).
- Pre-map capacities (both internal and external) to implement these interventions (*Step 4*).
- Define the best way(s) to share FRMC results with the community and relevant stakeholders (*Step 5*): What do you want to share? With whom? And how?



Results should first be explored at the level of an individual community because the FRMC is specific to an individual community, and each community will want to see their own results. Based on your community proximity, you may also want to explore results for a group of communities, for example several communities within the same river basin, along the same stretch of coast, or in the same urban flooding area.

This is because what happens upstream will impact communities downstream. It may be possible to develop one intervention that will benefit multiple communities in the same area. This guidance does not specifically discuss results aggregation for a group of communities.

Step 1: Look at the FRMC results through all lenses

Look at the FRMC results through the different lenses, to keep the richness of the tool and so as not to analyse the sources in isolation. The data cockpit is a useful tool to do so (Figure 1).

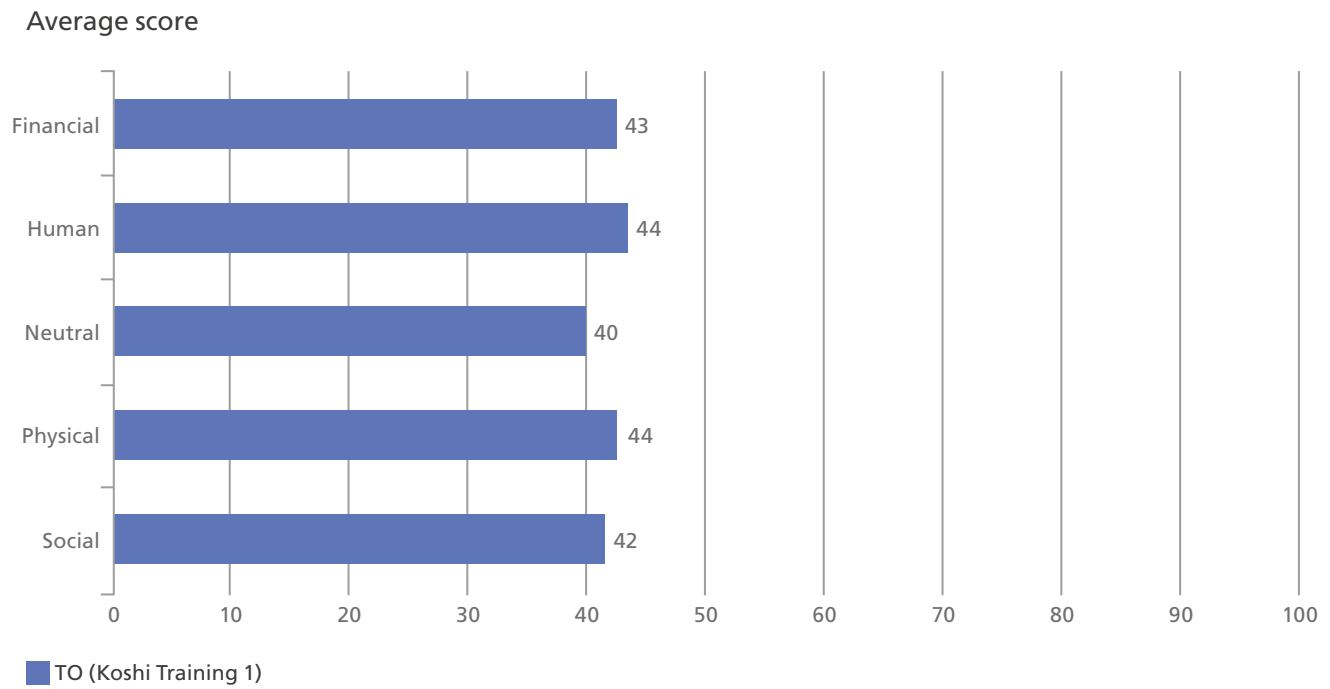


Figure 1 Data cockpit output according to the five capitals from one community

Activity sheet:

Using the graphs from the data cockpit, look across the different lenses and quickly scan for areas of opportunities/strengths (higher average scores) and weaknesses (lower average scores).

Name of lens that is being used:	5 capitals	Context	DRM cycle	4Rs	7 themes
According to this lens, what seem to be the opportunities/ strengths of this community?					
According to this lens, what seem to be the needs/ weaknesses of this community?					
Do you agree/disagree with the results? Explain why.					
What do you think could be the reason for these results? Think also about the interconnection between the different items of the lens that you are using (e.g. financial and human, for the 'Capital' lens) and about sex-age-disability (SAD) disaggregation.					
<p>General question: what other existing information should inform the design and prioritization of interventions? (e.g. VCAs, previous post-disaster needs assessment, FRMC exercises (see Annex 2), risk maps, existing community development plans, etc.)</p>					
<p>General question: based on the FRMC process so far, do you have any initial ideas for interventions?</p>					

Step 2: Look at the FRMC results at the source level

Look at the source level to understand why a specific aspect of a lens is performing well or not. Use the data export function of the tool to download grades (and question answers) into Excel (Figure 2).

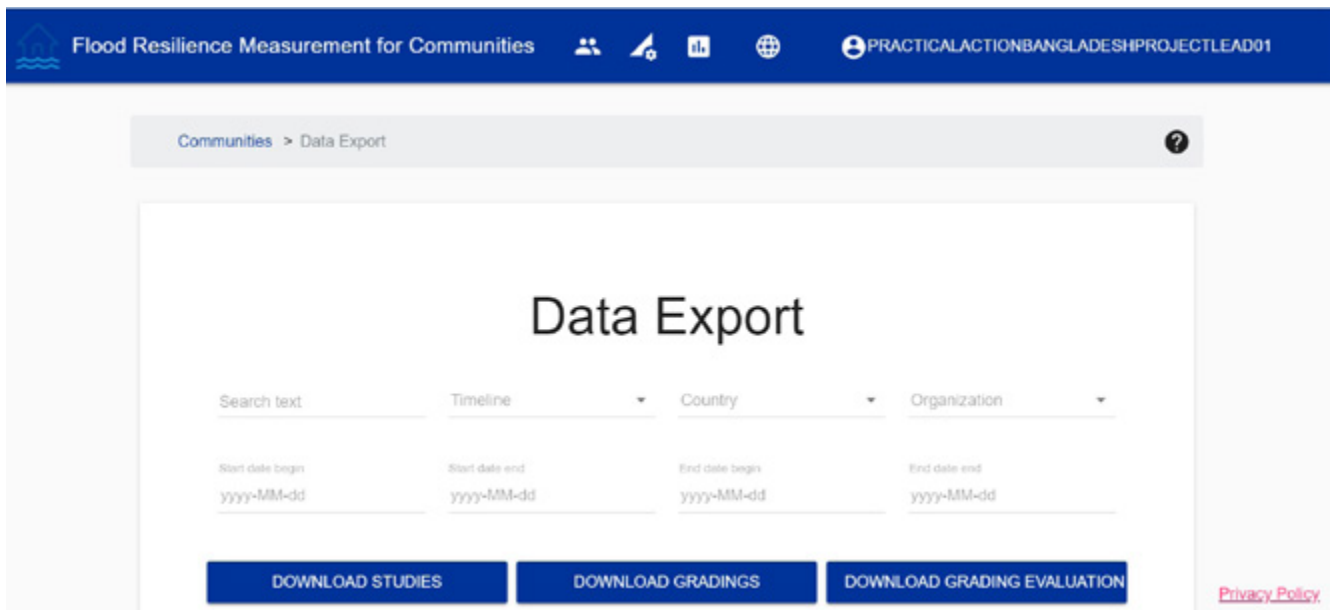



Figure 2 The data export screen allows you to download the grading of the sources of communities

First look at all sources graded D (needs/weaknesses) and A (opportunities/strengths). From there identify what your D sources have in common and think about what interventions might address some of these issues. Then think about what your A sources have in common and think about how these might be leveraged to achieve these interventions.

Next look at C and B grades – these are the sources where the community has some capacity already that could potentially be strengthened. For example, if a community has flood evacuation plans in place, but they are not inclusive of marginalized community members, then they would likely be graded C or B.

An intervention here would work with existing structures to improve the response plans and eventually bring the grade up to B or A. Similarly, if a community has some development planning in place that does not consider flood risk, working with existing planning groups to incorporate flood resilience could be a powerful and extremely efficient intervention.

 Remember that some sources will have low grades (Cs and Ds) because of entrenched issues that cannot be addressed directly in the ZFRA programme.

Activity sheet:

1. Print the 'Resilience sources' (available in Annex 1), cut them out, and mark them with A-B-C-D depending on their grade.
2. Look at all sources graded D: what do they have in common? Do we see some trends for possible interventions?
3. Look at all sources graded A: what do they have in common? How could they be leveraged to support interventions?
4. Look at all sources graded B and C: what do they have in common?
5. If you have a sub-set of sources you are beginning to focus on as possible entry points for an intervention, look at them using the Excel spreadsheet ('The grading export' spreadsheet) that illustrates which capital/context/Rs/themes/ DRM cycle phase each of those sources falls in. Are there ways to address two or more of those sources with one intervention?

Alternatively, use the FRMC exercises:

'The Wheel' to visualize the sources in a snapshot and show how sources present opportunities to improve or are fragile and at risk of deteriorating. This exercise may be used to narrow down the FRMC results into a subset of key sources to focus on.

'Mapping' to prompt conversation about how assets and vulnerabilities are linked in a system and how strong sources can be leveraged to improve weak sources (see Annex 2 for a short description of these exercises).



FRMC results' sharing and discussing with the government officials from the municipal civil protection commission in La Libertad, El Salvador © Plan International

Step 3: Define criteria to prioritize interventions

Prioritizing interventions needs to be based on a set of criteria that are defined by organizational staff and key stakeholders, particularly communities. These criteria may include level of urgency, groups targeted/benefiting, and willingness of key stakeholders. Suggested criteria are listed below. Defining criteria and prioritizing interventions is an iterative process, and therefore a process you will keep engaging with. For example, you may decide a shelter-related intervention is of higher priority than originally thought because local government has taken a new interest in housing. Or, priorities may shift in the aftermath of a flood.

In this step, you need to list criteria that might be useful for prioritizing interventions with the community and stakeholders.


Core criteria that should be part of every list include:

1. Relevance – level of urgency/needs in the community that the intervention could solve, is it the right thing to do?
2. Equity and inclusion – benefit for those who need it the most.
3. Efficiency – will the benefits of the intervention exceed its costs?
4. Effectiveness – can the expected results be achieved?
5. Sustainability – the life expectancy of the intervention beyond the programme: will it last long enough to be worth the effort?
6. Impact – the possibility of replication/scale-up in other communities/areas.
7. 'Action without harm': check whether the intervention may inadvertently create more risks (or if it is impossible to avoid all harm, are potential negative impacts limited, worth the risks, and compensated for?)
8. Co-benefits – for other sources of resilience, for other communities, supporting the community's socioeconomic development, etc.

9. Willingness and availability of the community to implement the intervention, and to take charge of the intervention's management and maintenance, potentially over the long term.
10. Availability of financial or material resources for implementation of the intervention, from your organization, from the community, and/or from other actors.
11. Availability of technical expertise for implementation of the intervention, from your organization, community, and/or other actors, or the opportunity and willingness to learn and innovate while implementing the intervention.
12. Time required to implement the intervention and see its impact – can it be implemented in a reasonable amount of time/before people lose interest? Will the benefits from the intervention be seen soon enough to maintain people's interest and commitment?

Think with your team:

- Can you think of any other criteria that should be included?
- Do some criteria look more critical than others? If yes, which one(s), and why?

 *About criterion 7, 'Action without harm': some interventions, particularly those designed to protect people and assets from flood waters, can actually incentivize people to locate in the flood plain because they believe they are safe. This would create more risk if and when there is a major flood.*

Step 4: Conduct a quick pre-feasibility study for interventions

For this pre-feasibility study, think about these three aspects:

1. Review possible interventions – you might want to review literature (such as the Flood Portal, and especially the ‘Solutions Finder’: <https://floodresilience.net/solutions>) for ideas of interventions that you might not have thought of.
2. Explore your internal capacities: what resources (human, time, material, and financial) could you directly contribute to support the intervention?
3. Explore external capacities: who (external stakeholders) might help the community to implement interventions? What form(s) could this support take (e.g. technical expertise, unskilled labour, funds)?

Alternatively, use the FRMC exercise ‘Voting’ to prompt a conversation about what various stakeholders will want to prioritize, based on the level of urgency and your organizational capacity, as well as the community and other stakeholders’ capacity (see Annex 2).



Community Action Planning in Hatibandha, Bangladesh
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Step 5: Define the best way(s) to share FRMC results externally

Before sharing the results, think about what should be shared externally and with whom. Think also about how you should share the results, depending on your audience.

Activity sheets with your team:

a) First, think about what should be presented and discussed with the community. The activity sheet below will help your team to ponder pros and cons of different items that could be shared with the community.

WHAT should we present?			
Methods	Possible pros	Possible cons	What would be the pros and cons of this method in your community?
Presenting all the lenses	Comprehensive analysis	Time-consuming Some lenses might be complicated to explain easily Can get lost in the details	
Presenting only one or some lenses	Possibility of choosing the lenses that are easier to understand	Risk of bias Loss of the richness of the tool	
Do not present the lenses, only the sources	Sources are likely to be easier to understand than lenses	Loss of the richness of the tool Risk of giving only a 'list' of grades	
Present all the sources	Comprehensive Allows system analysis	Time-consuming	
Present only the sources that you have pre-identified	Might be easier to 'digest' for the community	Risk of bias because the analysis will not be comprehensive Risk of influencing the community with your own priorities	
Present all the results with a written report	The report can stay in the community as one of its key documents Possibility of including all lenses and all sources quite easily	Risk of different communities comparing scores and grading Risk of misinterpretation, especially with 'numbers' Risk that the information will only be accessible to a few people in the community	
Add other methods that you may think of			

b) Think also about who should participate in the FRMC results presentation and discussion.

WHO should participate in the results discussion?			
Methods	Possible pros	Possible cons	What would be the pros and cons of this method in your community?
The whole community	Would help to build consensus at the community level and empower community members	Time-consuming, might be difficult to present enough detail Some participants might not feel confident about expressing their views, such as marginalized groups (women, people with lower education level, etc.)	
Only community leaders	Easier to present to a small group. Community leaders are likely to have a higher education level and thus more easily understand the results	Community leaders might not represent effectively all the needs of the community (for example: young people, people with disabilities, women)	
Several presentations with different groups (e.g. women, farmers)	Would help to gather the voices of vulnerable people and empower them	Time-consuming as you need to present the results several times More difficult to build consensus at the community level	
With the community and the local authority	Would help to involve the local authority in the process	Risk of bias if the local authority influences the interpretation of results	
Add other methods that you may think of			

c) Lastly, how can you present and share the results? For example:

- An alternative, participatory approach: the FRMC exercises (*1 Wheel; 2 Voting; 3 Mapping*) can be used to present the results to the community and/or carried out together with the community and other stakeholders as a means of facilitating a multi-stakeholder dialogue and co-ownership of the intervention planning process (see Annex 2).
- A written report with all the information that can be handed to the community and other relevant stakeholders.
- A video projector to show results from the data cockpit as graphs.
- Flipcharts (see photos below).



Presenting sources or resilience during a community workshop in Nepal
© Madhab Uprety, Practical Action



Explaining the concept of resilience and the different lenses during a community workshop in Peru
© Emilie Etienne, Practical Action

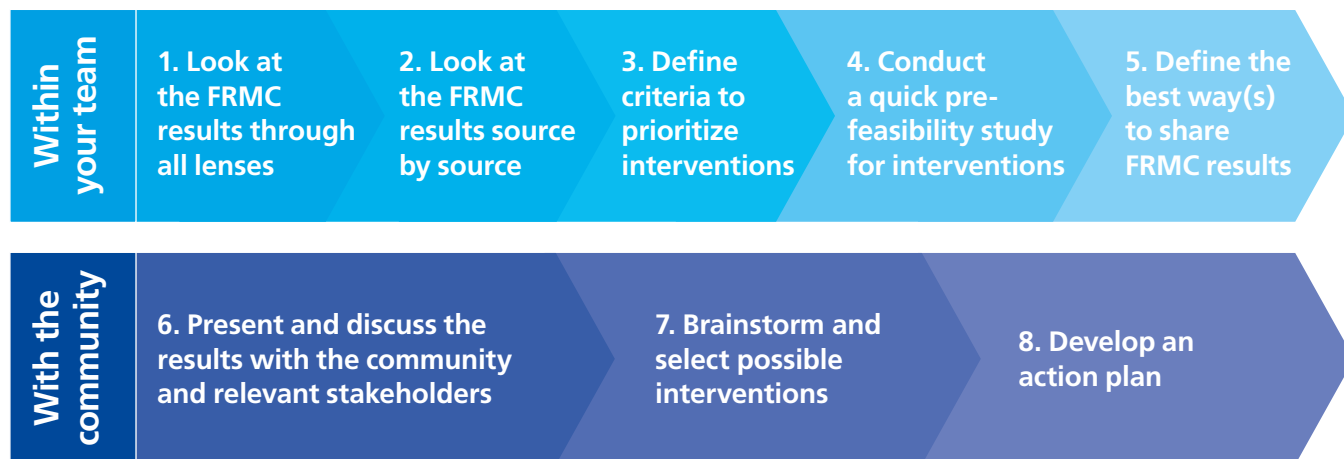
Stage 2: Activities with the communities and stakeholders

The overall objective of the activities with communities and stakeholders is to share and discuss FRMC results with them, in order to define, prioritize, and plan possible interventions.

The activities with the communities and stakeholders aim to:

- Present and discuss FRMC results with the community and stakeholders, to reach a common understanding of strengths and weaknesses regarding flood resilience (*Step 6*).
- Brainstorm possible interventions (*Step 7*).
- Select the interventions that are likely to have the greatest impact and that are feasible (*Step 7*), based on the preliminary list of criteria (*Step 3*) and informed by the pre-feasibility study (*Step 4*) that you discussed within your team.
- Plan the implementation of those interventions (*Step 8*).

These activities should be implemented through one or several workshops with the community and relevant stakeholders.



Step 6: Present and discuss the results externally

Based on Step 5 where you defined what is best to share, with whom, and how, you can now implement the results presentation. If you are not sure which approach would work best in your context, we suggest a presentation in two parts:

a) Present the results with one or more lenses: you can present the results with the different graphs that appear in the data cockpit (Figure 3).

Average grading

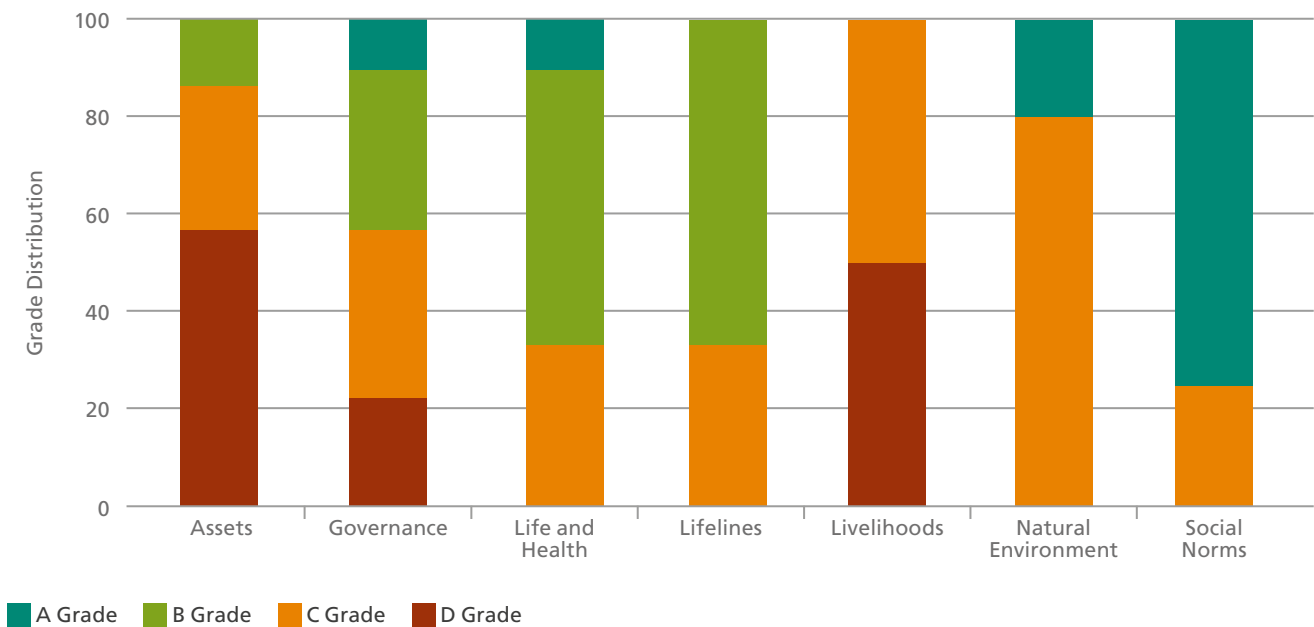


Figure 3 Distribution of the grades for the 7 themes in one community

Note: FRMC 'scores' are relevant only within the context of each community. Different communities should not compare their 'scores' with each other – it is no more relevant than saying the person with a headache is better or worse than the person with a sore throat. What matters is how the scores help community members, and organizations and agencies working with the community, to understand their risks and opportunities, and to track progress in reducing risk and improving resilience over time.

Discuss the results with the community and stakeholders:

- Do they agree/disagree with the results? Why?
- What do they think could be the reason for this result?

It is helpful to have the data export handy in case communities ask questions about the individual sources or the answers that the sources' grading is based upon.

b) Present and discuss the results at the sources level

- Create a matrix with grades on the y-axis, and the level of urgency on the x-axis.
- Place the sources in this matrix – refer to your FRMC results for the grade for each source (A, B, C, D) and discuss with the community the urgency of each source that has a B, C or D grade.
- Circle the sources that have commonalities.
- Look at the 'urgent' sources: could some 'strong' sources/group of sources (i.e. with A or B grades) support or compensate for weak and urgent ones?

Example:

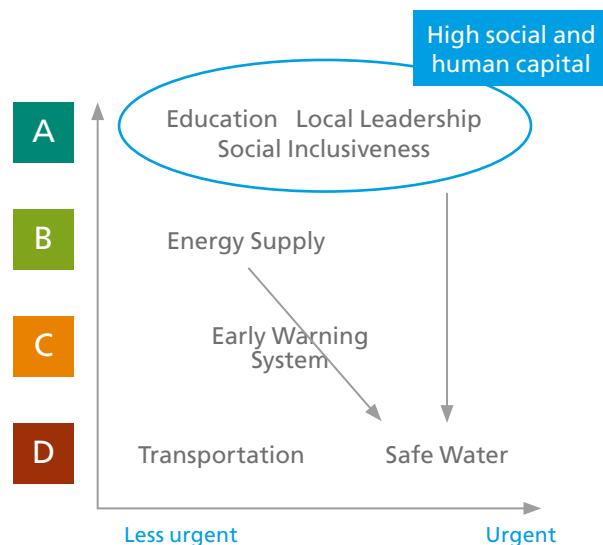


Figure 4: Example analysing interconnections of sources, looking at both their grades and level of urgency

In this example, we can see that community members have a relatively high education level (high human capital) and good social cohesion (high social capital). They also have a relatively good energy supply.

On the other hand, 'Safe Water' has been identified as a weakness and rated as 'urgent' by the community to improve their flood resilience.

How could they use the strengths of high social and human capital, as well as the good energy supply, to improve access to safe water?

Tips for effective results communication in the community:

- Provide information that is easily understood: for example avoid communicating the results in charts and percentages only.
- Consider different ways of presenting the results for different groups (community members, key informants, local stakeholders, private sector, etc.).
- Share and discuss results in local languages.
- Do not overload the community with too much information; focus on the strengths of each community and use them in a creative way to discuss areas that have space for improvement.
- Do no harm: be sensitive about communicating information that might create tensions in the community. Be aware of the fact that you might share sensitive or confidential information. Context, audience, and power dynamics need to be considered.
- Be cautious when presenting the results. Do not raise hopes and expectations that your organization cannot fulfil: some interventions might be funded and implemented by the community, the local authority, other non-governmental organizations, etc. Clarify that your organization might only be able to fund and implement a few interventions from the community plan.
- Give the community enough time to reflect on and understand the results.

Step 7: Brainstorm and select possible interventions with the community and stakeholders

a) Ask the community and stakeholders for ideas for interventions that could help improve one or several sources of resilience, then complement with possible interventions that you pre-identified when you analysed the results as a team (in Step 4).

You can write these possible interventions on a flipchart.

i **Note:** Possible interventions are not only 'structural' measures such as bridges, drainage, and reforestation. They also involve human and social measures, such as training, community risk maps, community organizing, or creation of disaster risk reduction committees.



Volunteer interviews a fisherman © Red Cross Albania

b) Prioritize the interventions with the community using the criteria that you developed previously as a team (in Step 3). You can also adjust these criteria based on feedback from the community and other stakeholders.

i **Note:** For this step, if you have not already done so, you might first need to conduct a stakeholder analysis with the community. This will help you to answer questions such as whether there are external stakeholders interested in, willing and able to support particular interventions. For details on how to carry out the stakeholder analysis see the guide on Project set up, study set up, data collection, and grading available at <https://floodresilience.net/frmc>

You can use a table (see the activity sheet below for an example of a prioritization table) to explore the feasibility of each intervention.

Activity sheet: example of prioritization table

Name of intervention	Source(s) that this intervention targets	Criterion 1. Relevance – level of urgency	Criterion 2. Equity and inclusiveness	Criterion 10. Availability of financial or material resources	Criterion x
Education about evacuation roads	<p>H01 – Evacuation and safety knowledge</p> <p>S01 – Community participation in flood-related activities</p> <p>H06 – Future flood risk awareness</p> <p>P02 – Early warning systems (EWS)</p>	Very urgent	It is possible to design different workshops and communication tools to involve vulnerable groups such as children, women, and people with disabilities.	<p>Community leaders are willing to implement this intervention, but some people might be reluctant to participate.</p> <p>The municipality regularly organizes evacuation drills, and they are willing to organize one in our community.</p>	
Etc.					

c) Review the table and select the ‘best’ interventions with the community.

Step 8: Develop an action plan to implement prioritized interventions

Prioritized interventions should be transformed into a community plan. If a community plan already exists, assess how the FRMC results can be incorporated into or used to adapt this plan. The plan should not only include activities funded by the project, but also activities that would be funded by the community, local authorities, or other relevant actors/stakeholders. When planning interventions, think also about integrated planning and execution: how could these interventions interact with each other?



Note: Expectations should be managed carefully, so that the community understands that the ZFRA will not fund everything in the plan.

Activity sheet: Example of action plan

Intervention	Detail of activities	Responsible	Necessary resources	Who is in charge of resources?	Timeframe
Education about evacuation roads	Workshop to define the best evacuation roads	NGO and community leaders	1. Coffee break 2. Flipcharts 3. Room	1. Community leaders 2. NGO 3. Municipality	December
	Print maps of evacuation roads	NGO			
	Distribute maps to households	Community leaders			
	Evacuation drill with the community	Municipality and community leaders			
	Evaluation of the drill and planning of next actions	Etc.			
Etc.					

Following the identification of interventions and corresponding action plan, the interventions will need to be mapped out in terms of specific activities and the different results anticipated. This results chain will then need to be monitored and evaluated appropriately.

Annex 1 – The sources of resilience

F01 | Household asset recovery

- ___ Financial
- ___ Community level
- ___ Assets
- ___ Redundancy
- ___ Recovery

F02 | Community disaster fund

- ___ Financial
- ___ Community level
- ___ Governance
- ___ Resourcefulness
- ___ Recovery

F05 | Risk Reduction Investments

- ___ Financial
- ___ Enabling Environment
- ___ Corrective Risk Reduction
- ___ Robustness
- ___ Assets

F06 | Disaster response budget

- ___ Financial
- ___ Enabling Environment
- ___ Governance
- ___ Rapidity
- ___ Response

H02 | First aid knowledge

- ___ Human
- ___ Community Level
- ___ Life and Health
- ___ Robustness
- ___ Preparedness

H03 | Education commitment during floods

- ___ Human
- ___ Community Level
- ___ Prospective Risk Reduction
- ___ Resourcefulness
- ___ Livelihoods

H06 | Future flood risk awareness

- ___ Human
- ___ Community Level
- ___ Prospective Risk Reduction
- ___ Robustness
- ___ Assets

H07 | Water and sanitation awareness

- ___ Human
- ___ Community Level
- ___ Life and Health
- ___ Robustness
- ___ Response

N01 | Natural capital condition

- ___ Natural
- ___ Enabling Environment
- ___ Prospective Risk Reduction
- ___ Redundancy
- ___ Natural Environment

N02 | Priority Natural Units

- ___ Natural
- ___ Community Level
- ___ Prospective Risk Reduction
- ___ Robustness
- ___ Natural Environment

N05 | Natural Habitat Restoration

- ___ Natural
- ___ Enabling Environment
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Governance

P01 | Flood healthcare access

- ___ Physical
- ___ Community Level
- ___ Life and Health
- ___ Robustness
- ___ Response

F03 | Business continuity

- ___ Financial
- ___ Community level
- ___ Livelihoods
- ___ Rapidity
- ___ Preparedness

F04 | Household income continuity strategy

- ___ Financial
- ___ Community Level
- ___ Livelihoods
- ___ Redundancy
- ___ Preparedness

F07 | Conservation budget

- ___ Financial
- ___ Enabling Environment
- ___ Prospective Risk Reduction
- ___ Natural Environment
- ___ Robustness

H01 | Evacuation and safety knowledge

- ___ Human
- ___ Community Level
- ___ Life and Health
- ___ Robustness
- ___ Preparedness

H04 | Flood exposure awareness

- ___ Human
- ___ Community level
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Assets

H05 | Asset protection knowledge

- ___ Human
- ___ Community level
- ___ Corrective Risk Reduction
- ___ Robustness
- ___ Assets

H08 | Environmental management awareness

- ___ Human
- ___ Community Level
- ___ Prospective Risk Reduction
- ___ Resourcefulness
- ___ Natural Environment

H09 | Governance awareness

- ___ Human
- ___ Community Level
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Social Norms

N03 | Priority Managed Units

- ___ Natural
- ___ Community Level
- ___ Corrective Risk Reduction
- ___ Robustness
- ___ Natural Environment

N04 | Natural Resource Conservation

- ___ Natural
- ___ Enabling Environment
- ___ Prospective Risk Reduction
- ___ Resourcefulness
- ___ Governance

P02 | Early Warning Systems (EWS)

- ___ Physical
- ___ Enabling Environment
- ___ Life and Health
- ___ Robustness
- ___ Preparedness

P03 | Flood Emergency Infrastructure

- ___ Physical
- ___ Community Level
- ___ Life and Health
- ___ Resourcefulness
- ___ Preparedness

P04 | Provision of education

- ___ Physical
- ___ Robustness
- ___ Community Level
- ___ Recovery
- ___ Livelihoods

P05 | Household flood protection

- ___ Physical
- ___ Robustness
- ___ Community Level
- ___ Assets
- ___ Corrective Risk Reduction

P08 | Communication interruption

- ___ Physical
- ___ Rapidity
- ___ Enabling Environment
- ___ Response
- ___ Lifelines

P09 | Flood emergency food supply

- ___ Physical
- ___ Robustness
- ___ Community Level
- ___ Response
- ___ Lifelines

P12 | Flood energy supply

- ___ Physical
- ___ Redundancy
- ___ Community Level
- ___ Recovery
- ___ Lifelines

S01 | Community participation in flood related activities

- ___ Social
- ___ Resourcefulness
- ___ Community Level
- ___ Preparedness
- ___ Life and Health

S04 | Community disaster risk management planning

- ___ Social
- ___ Rapidity
- ___ Community Level
- ___ Governance
- ___ Prospective Risk Reduction

S05 | Community structures for mutual assistance

- ___ Social
- ___ Resourcefulness
- ___ Community Level
- ___ Response
- ___ Social Norms

S08 | Local leadership

- ___ Social
- ___ Resourcefulness
- ___ Community Level
- ___ Governance
- ___ Prospective Risk Reduction

S09 | Inter-community flood coordination

- ___ Social
- ___ Resourcefulness
- ___ Community Level
- ___ Preparedness
- ___ Social Norms

P06 | Large scale flood protection

- ___ Physical
- ___ Community Level
- ___ Corrective Risk Reduction
- ___ Robustness
- ___ Assets

P07 | Transportation interruption

- ___ Physical
- ___ Community Level
- ___ Lifelines
- ___ Redundancy
- ___ Response

P10 | Flood safe water

- ___ Physical
- ___ Community Level
- ___ Lifelines
- ___ Robustness
- ___ Response

P11 | Flood waste contamination

- ___ Physical
- ___ Community Level
- ___ Lifelines
- ___ Robustness
- ___ Response

S02 | External flood response and recovery services

- ___ Social
- ___ Enabling Environment
- ___ Life and Health
- ___ Resourcefulness
- ___ Preparedness

S03 | Community safety

- ___ Social
- ___ Community Level
- ___ Life and Health
- ___ Robustness
- ___ Recovery

S06 | Community representative bodies

- ___ Social
- ___ Community Level
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Governance

S07 | Social inclusiveness

- ___ Social
- ___ Community Level
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Social Norms

S10 | Integrated flood management planning

- ___ Social
- ___ Enabling Environment
- ___ Corrective Risk Reduction
- ___ Resourcefulness
- ___ Governance

S11 | National forecasting policy & plan

- ___ Social
- ___ Enabling Environment
- ___ Governance
- ___ Resourcefulness
- ___ Preparedness

Annex 2 – Interactive exercises to help analyse the FRMC results and brainstorm possible interventions

The Wheel



Voting



Mapping



The interactive FRMC exercises provide an alternative approach to using and analysing the FRMC data, to inform the design of programme interventions after an initial analysis at the lenses level has been performed. They enable discussions around vulnerabilities and capacities, opportunities and limitations, and help to brainstorm possible interventions.

The FRMC exercises are a simple set of field level exercises that are highly flexible, quick to pick up, and used as needed. The FRMC exercises are designed to be carried out in your project team. However, they are easily adaptable to be carried out with other groups and/or to take local specificities into consideration. For example, they can be adapted and used to present the results to the community and/or carried out together with the community or other relevant stakeholders as a means of facilitating a multi-stakeholder dialogue and co-ownership of the intervention planning process.

The exercises are intended to complement the eight steps outlined in the guidance document, in particular: Step 2 (look at the FRMC results at the sources level); Step 4 (conduct a quick pre-feasibility study for interventions); Step 5 (define the best way(s) to share FRMC results externally); and Step 7 (brainstorm and select possible interventions). Teams are expected to have already analysed the results in the data cockpit before using the exercises, especially looking at the lenses of resilience.

The purpose of the exercises is as follows:

1. The Wheel

- Show a way that sources of resilience can be narrowed down into a subset of key sources to focus on.
- Visualize the sources in a snapshot and show how sources are fragile and at risk of deteriorating or represent opportunities to improve.

2. Voting

- Prompt conversation about what various stakeholders will want to prioritize, based on the level of urgency and your organizational capacity as well as the community and other stakeholders' capacity.
- Further narrow down sources to focus on improving a few of them through suitable interventions in a coherent and participatory way.

3. Mapping

- Prompt conversation about how assets and vulnerabilities are linked in a system and how strong sources can be leveraged to improve weak sources.
- Brainstorm interventions that will impact resilience in a holistic way.

The exercises were originally designed to be used in a sequence (*1 Wheel, 2 Voting, 3 Mapping*); however they can be used separately provided that an appropriate alternative approach to narrowing down sources has been used before carrying out exercises 2 or 3.



Note: A full facilitation package is available to support the use of the exercises which includes a more detailed explanation of each exercise, plus a facilitation guide, video, and materials. If you have any questions about the exercises or would like any support in using them then please contact Felicitas Ledergerber (IFRC): felicitas.ledergerber@ifrc.org or Francisco Ianni (IFRC): francisco.ianni@ifrc.org.



For more information
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Photo credits: Front page, The community leaders grading their own capitals in presentation of FRMC results in Manuel Buelta y Rayón
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