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05. COLLECT RISK, EARLY ACTION AND IMPACT INFORMATION

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05. Collect risk, early action and impact information

Summary

Depending on what approach you select for anticipatory action you will have different time and resources at hand to do the collection of risk, early action and impact information. For example, you may have a full-fledged project to build an EAP, or you may only put together a plan in an imminent DREF when the disaster is already on the horizon. In any case, you need different kinds of information throughout the processes of developing (and later evaluating) your plans and implementation. As the goal of anticipatory action is to prevent or reduce the impact of extreme events, it is of crucial importance to understand hazard impacts, how these impacts occur, who and what is most affected, and why. For EAPs, answers to these questions will inform risk assessments that feed into intervention maps and the selection of early actions.

To answer these questions, you can use a mix of qualitative and quantitative methodologies. For example, quantitative data will help you understand how many people are impacted, the extent of the damage that is caused, and who and what have been damaged by previous events. This will help you identify which variables to monitor for your trigger and determine trigger thresholds. Qualitative approaches will help you understand why and how people are affected and which impacts are most difficult for households to overcome, which can inform the development of early actions.

This chapter outlines a range of potential sources, tools, and methods to support you in collecting risk (vulnerability, exposure, capacity) information, for documenting historical impacts, and for brainstorming potential early actions. It builds on concrete examples from contexts of anticipatory action for extreme weather events. For non-weather-related hazards, such as epidemic outbreaks, population movement or volcanic ashfall, similar steps and methods are applicable but sources for data might differ. How to compile forecast data for both weather and non-weather related hazards, including available options and assessing skill, is covered in [chapter 6](#). As all chapters that focus on the operationalization of anticipatory action in practice, the emphasis on this chapter is on the development of a full Early Action Protocol, as this requires a comprehensive set of information on past disaster impacts and the distribution of risks.

In the video below, Arielle Tozier de la Poterie explains how to identify impacts and select early actions for an EAP, and talks about experiences made in Mozambique.

Step 1: Understand key terms and related questions

The methods you use to collect information should always be directly linked to, and appropriate for, the questions you are asking. This section outlines the key questions you will need to examine and answer while developing your anticipatory action plan and EAPs in particular.

Exposure

- Who and what suffers or is affected the most from the prioritized impact and how?
- Which sub-groups of the populations are exposed?
- What elements of the built environment are most affected and how (for example, houses, schools, cross, natural resources, water points, roads)?
- Where are those exposed elements located (for example, households living on at-risk parts of embankments)?

Vulnerability

- What characteristics of people and/or things lead them to be disproportionately impacted by a particular hazard?



Clarification: Exposure vs. Vulnerability

The terms exposure and vulnerability are often confused, but they are not interchangeable. Exposure refers to people, places, or things that are hit by an event, regardless of whether they are (likely to be) negatively impacted. Vulnerability describes the characteristics of those things that make them more likely to suffer from impacts. For example, a cement house and an adobe house may be located side by side in a flood zone. Both houses are exposed to flooding, but because of its construction, the adobe house will be more vulnerable to flood waters than its cement neighbour. When collecting data and information for your anticipatory action plan, you need to understand both exposure and vulnerability.

Drivers of vulnerability

While exposure can often be directly learned from hazard maps (if available) or from the knowledge of the community which area is often flooded, vulnerability is more complex. Different individual and community characteristics can contribute to the vulnerability of individual people, and influence how badly they may be affected by a hazard. On the individual level, people could be more vulnerable based on their age, gender, disabilities, level of education, or livelihood, for example. Communities in their entirety may be more vulnerable than others if they have been historically

marginalized and received fewer resources to strengthen their resilience. Often, drivers of vulnerability are not static, and people's vulnerability can change over time. These are particularly complex dynamics in fragile and conflict-affected settings. The toolkits on Protection, Gender and Inclusion and on Anticipatory Action in Fragile, Conflict-affected and Violent Settings in this chapter's [toolbox](#) offer useful resources to identify and monitor relevant drivers of vulnerability.

Impacts

- What are the (humanitarian) impacts of a particular hazard?
- What impact databases or other records, e.g., narratives from older adults / elderly individuals or media archives are available for the selected hazard?
- How confident are you in the quality of the historical records?
- What hazard magnitude produces key impacts?
- What impacts do people find most difficult to deal with in their daily lives?
- Which sectors have been historically affected the most (health, shelter, agriculture, infrastructure, etc.)?

Early actions

- What do affected populations currently do (or have they historically done) to prevent or cope with negative impacts of the hazard in question?
- Could any of these responses be implemented before the event occurred to reduce later impacts?
- Could current preparedness actions be reinforced or improved with anticipatory action?
- What more could stakeholders do (in the window between the forecast and the hazard impact) if they had additional support or resources?
- What (if any) evidence is there that the action we are proposing will work?

Step 2: Understand how you will use the data

Depending on your anticipatory action approach – and the type of plan you're developing (e.g., a community-based plan, an imminent DREF, a plan developed jointly with government, an EAP, or another format) – you will collect information on exposure, vulnerability, and impacts at a level of detail that reflects the time and resources available.

At a minimum, you need to understand

- Which impacts you want to address with your early actions and why?
- Which early actions have the potential to reduce the impact and why?
- What magnitude of the hazard creates that impact at which you want to activate your plan?
- Where do you want to implement the early actions? What information do you need to decide that?

For the EAPs (full and simplified) you will need the data you collect using the methods below to meet a number of EAP criteria (see link to the full and simplified EAP criteria in the [toolbox](#)). The following table lists the Validation Committee criteria and the data necessary to meet them that can be obtained using the methods in this chapter. Additional criteria and data sources specific to forecast selection and trigger definition are covered in [chapter 6](#).

EAP criteria	Data to be gathered using the methods in this chapter
The EAP triggers are based on a combination of the analysis of risk factors and the forecast in line with the steps of the trigger methodology outlined in the AA manual.	Primary or secondary data on vulnerability, exposure, and coping capacity contribute to the risk analysis that feeds into the trigger.
The EAP provides an analysis of historical impacts for the selected hazard and provides an evidence-based analysis of exposure and vulnerability.	Primary or secondary data on historical impacts, exposure, and factors contributing to vulnerability.
Data must be provided that shows that an event of the magnitude/strength of the event that the trigger is based on has caused disastrous humanitarian impact in the region in the past.	Secondary impact data and/or consultations with stakeholders demonstrate humanitarian impacts of previous events.
There is a map or a clear methodology that will tell the National Society where action should be taken based on a combination of vulnerability, exposure, and the forecast when the EAP is activated based on the trigger model.	Primary or secondary data on exposure and factors contributing to vulnerability and locations in the country that are at the highest risk based on vulnerability and exposure criteria.
Forecast-based early actions are selected based on the reduction of risk that they will provide. And, for each early action selected, the EAP must include a theory of change and show that the action chosen is appropriate to reduce the specific risk.	Evidence from other interventions, the evidence database, and / or consultations with stakeholders indicate that the actions proposed are appropriate and likely to reduce the impacts in question.
Selected actions should be socially acceptable according to the context and there should be evidence of its effectiveness.	Primary data community and stakeholder consultations indicating that the proposed actions are socially acceptable.
The EAP clearly explains how the target beneficiaries within the intervention areas will be selected.	Targeting criteria are justified based on secondary vulnerability data and/or consultation with stakeholders indicating the relative susceptibility of targeted populations to the hazard impacts being prioritized.

While the data and analyses required for sEAPs are not as rigorous, data gathered through the methodologies are applicable to the following criteria, again taken directly from the sEAP validation criteria:

sEAP criteria	Data to be gathered using the methods in this chapter
Hazard selection is supported with evidence related to the historical disaster impact.	Secondary impact data and/or consultations with stakeholders demonstrate humanitarian impacts of previous events.
The risks being prioritized are relevant to the hazard's main impacts.	Secondary vulnerability and exposure data and/or consultations with stakeholders indicate that the impacts being targeted are produced by the hazard.
The simplified EAP has a clear trigger statement.	Secondary impact data and/or consultations with stakeholders can help to determine an appropriate threshold for humanitarian action.
Selected early actions seek to reduce the possible impacts of the risks prioritized by the National Society.	Evidence from other interventions, the evidence database, and/or consultations with stakeholders indicate that the actions proposed are appropriate and likely to reduce the impacts in question.
The simplified EAP clearly explains who will be targeted with the early action activities.	Targeting criteria are justified based on secondary vulnerability data and/or consultation with stakeholders indicating the relative susceptibility of targeted populations to the hazard impacts being prioritized.

Step 3: Gather your data

Using the questions above (and any others you find relevant) and depending on your time and resources, review the methods below. If you have a bit of time and resources, you can make a preliminary plan for how to answer the questions above (see [toolbox](#) for research planning template). Over the course of data collection, you may find that some sources of data do not exist in your context, requiring you to revise your plan by searching elsewhere or using other methodologies.

Method A: Consult secondary data: impact and risk databases

When available, data from the government and national ministries are a valuable source of information on the impacts of past events and current exposure and vulnerability of populations at risk. Gathering historical impact data to conduct the risk analysis can be

done using sources at the local, regional, national, and sometimes even the international level.

The following ministries (e.g. on national but also district level) may have relevant information regarding general or sector-specific disaster impacts and risk factors, including for non-weather-related hazards like epidemic outbreaks or the sector-specific humanitarian impacts of displacement crises:

- National Disaster Management Agency (Disaster Risk Management Agency)
- Ministry of Health
- Ministry of Transportation
- Ministry of Climate / Energy
- Ministry of Education
- Ministry of Agriculture
- Ministry responsible for infrastructure / land use and / or housing
- Ministry for water and sanitation
- Agency responsible for national statistics
- Department of Welfare
- National Research Institutions

Keep in mind that some ministries may be more open and willing than others to share their data. It may be necessary to clearly explain your need for this data or enter into formal agreements, such as Memorandums of Understanding (MoUs), to have access to government data. Begin the process of secondary data collection early to ensure that you do not experience delays.

In addition to government entities listed above, the following international databases and offer country-specific impact data:

- DesInventar
- EM-DAT
- Montandon
- DeltaResilience

For data on risk factors, these information management sources may also be useful:

- INFORM index
- World Risk Index
- ThinkHazard
- HDX
- OpenStreetMap
- ALNAP

See the [toolbox](#) for links to these resources.

Method B: Consult secondary data and conduct literature review

A literature review allows you to gather information on impacts and potential early actions from existing work such as reports, studies, policies and other documents. Evaluations or systematic reviews in the international disaster response and risk reduction literature can also identify actions that have been tested in other humanitarian settings and provide evidence about whether, when, why, and how such interventions are effective in preventing or addressing disaster impacts relevant to your context.

When reading through contingency plans, policy documents, studies, or reports on past disasters, consider the questions under “early actions” (step 1) above. In the case of reports specific to anticipatory action, consider whether the early actions and / or lessons learned identified in the literature are transferable to your context.



Qualitative (interviews and focus groups) vs. quantitative (surveys) primary data

Primary data is data you collect yourself rather than obtain from existing sources or databases. This can include both qualitative (e.g. interviews and focus groups) or quantitative (e.g. survey) data.

When deciding between data collection methods or tools, it is essential to consider what kind of information is needed and why, as well as the best source for obtaining such data. While it may be tempting to quantify the impacts of past disasters using a survey, asking people to recall the consequences of past events is unlikely to yield reliable quantitative information, unless it is done immediately following an event. Qualitative data about past impacts will likely yield more detailed information regarding how and why disasters cause problems for communities. People are more likely to remember what they did and how they experienced an event than exactly how many acres of crops they lost. Government statistics (a secondary source) may then be able to provide quantitative data to support these qualitative accounts.

Think about the level of detail you need (including information on causality), from whom (scale), and how reliable that information is likely to be (can people be expected to remember what you are asking?) when deciding which methods will get you the best data.

It is well known that disaster losses and damages datasets of governments and institutions should be improved. Advocacy and technical support to government agencies and other institutions responsible for capturing detailed disaster impact information is essential to improve the capacity to identify effective early actions, as well as to develop better triggers (see [chapter 6](#) for more details).

Method C: Semi-structured, key informant interviews

Semi-structured interviews are conversations using a guide or a list of questions that need answering but that allow for the conversation to unfold naturally. They differ from structured interviews or surveys (in which questions are asked in specific way and answers are often pre-determined) in their open-ended nature.

In contexts where little literature or data on past impacts is available, semi-structured interviews with government and disaster management officials, community leaders, staff and volunteers of response agencies, National Societies, and civil society can help you gather information on priority hazards and their impacts. After identifying the key impacts and risk factors, semi-structured interviews with sector-specific experts are extremely valuable to probe deeper into potential early actions. You can find examples for semi-structured interview guides in the [toolbox](#).



How many interviews are enough?

Depending on the time and resources available, it is best to continue to conduct interviews until subsequent interviews no longer yield new information (this is called saturation). In some instances, you may also exhaust the list of relevant informants.

In the Mozambican context it was not possible to reach saturation in every sector that is impacted by floods and cyclones. Due to time constraints, the team focused instead on interviewees from the sectors most aligned with the Mozambique Red Cross capacities and priorities.

Examples of semi-structured interview guides for government stakeholders, community leaders or members (if applicable), and sector-specific experts and guidance on how to conduct a semi-structured interview are available in the [toolbox](#).

Method D: Focus group discussions

A focus group is a guided discussion, preferably conducted with a relatively homogenous group of individuals. You can conduct focus groups at various levels, including with national stakeholders, provincial or district officials, community leaders, or groups of practitioners.

Focus groups are ideal for understanding how communities have experienced or coped with previous hazard events and for brainstorming potential early actions. Examples of focus group discussion guides for community members and guidance on how to conduct a focus group discussion are available in the [toolbox](#).



FDG in Bangladesh



eVCA workshop in Madagascar



Data collection in Somaliland



Flood EAP in Pakistan

Method E: (Post-disaster) Community visits

Walking through a community with leaders or representatives can be a valuable way to contextualize and deepen understanding gained through interviews and focus groups. Both structured transect walks or less formal tours of a community allow the team to observe local conditions first hand, hear stories, and ask questions that might not arise in a more formal setting. Although visits shortly after an extreme event allow for direct observation of impacts, walking through disaster-prone communities can provide valuable insights at any time. IFRC guidance on Vulnerability and Capacity Assessments provide guidance on how to conduct a transect walk which you find linked in the toolbox.

You can also use the SketchMap tool which is an easy-to-use tool for participatory mapping through offline collection, digitization, and georeferencing of local data (see toolbox).

If your National Society is interested in a more community-led approach to defining your program and/or interventions, the P-FIM approach may also be appropriate. This methodology allows communities to take the lead in identifying their priorities and designing programs. More information on the approach is provided in the MEAL section and general information on how to use the approach and contact information is available in the [toolbox](#).



Practical guidance: Manage expectations

It is always important to be respectful in the timing of your focus group or visit and consult local leaders or representatives beforehand. For example, when visiting Nampula, Mozambique, shortly after a tropical depression, local officials requested a walk through the village with local leaders rather than conduct a focus group (as planned) so as not to raise expectations of assistance.

Method F: (Participatory) stakeholder workshops

Stakeholder workshops can elicit stakeholder opinions and ideas while reinforcing the concept of anticipatory action and promoting stakeholder engagement in the anticipatory action process. They can be used to identify and prioritize impacts to be addressed by the anticipatory action framework and also to prioritize early actions, revise theories of change (see [M&E guideline](#)) and discuss how to operationalize early actions. Be sure to involve experts from relevant sectors, such as shelter, agriculture, WASH and health, or disaster management. Practical Guidance boxes and the resources in the [toolbox](#) provide examples of workshop formats to identify, prioritize, and critically examine potential early actions.



Practical guidance: Sample 1-day Provincial workshop agenda based on activities in Mozambique

- Presentation: Overview of the concept of anticipatory action
- Presentation: Update on s/EAP development

Break

- Review finding on the impact of floods (substitute hazard(s) in questions)
- Individual activity: questionnaire asking stakeholders to rank priority impacts

Lunch

- Group activity 1: Ranking of key impacts in small groups (Mozambique team divided participants according to the districts from which they came).
 - Presentation of rankings to the group
- Group activity 2: Small group brainstorming and prioritization of actions that could be taken to address the priority impacts ([Climate Centre game "Ready"](#))
 - Presentation of actions to the group



Practical guidance: Sample 2-day National Workshop Agenda based on Activities in Mozambique

Day 1

- Registration and official opening

Break

- Presentation of the Early Action Protocol
- Questions and answers
- Individual Activity: Questionnaire asking stakeholder to rank impacts

Lunch

- Presentation of the research findings: primary impacts and evidence for potential early actions
- Group discussion: what early actions are missing?
- Individual Activity: Post all potential early actions (including those added by small groups) on the wall and have each person vote (with stickers) for the three priority early actions by placing their stickers on the appropriate paper.

Day 2

- Presentation of results of Day 1
- Individual questionnaire results: which impacts were prioritized?
- Results of early action prioritization: which early actions did the stakeholders prioritize? Based on the above, which actions will the group recommend?

Break

- Group work – Revising and Refining the Theory of Change: As many 1.5 hours sessions as needed (with lunch as appropriate) to workshop key theories of change in small groups. In Mozambique, we divided participants according to their expertise, so that WASH experts were working on WASH-related theories of change, shelter experts on shelter, and so on. Disaster managers more generally were divided evenly among the groups.

Method G: Surveys (such as knowledge, attitudes, and practices)

Unlike qualitative interviews and focus groups, surveys can allow your team to obtain quantifiable data and reach a larger number of respondents. This can be useful when asking people to prioritize impacts and early actions to be addressed by your anticipatory action plan. Given the resources involved in establishing a representative sample and problems with recall, we do not recommend using surveys to establish the impacts of past events (see first practical guidance).

Surveys are also an excellent tool for measuring the impact of early actions relative to no action or to traditional response (a comparison group). However, both survey questions and data collection procedures must be well thought out in order to generate meaningful conclusions. Furthermore, depending on the scale of your intervention, it may be time and resource intensive to collect survey data from a representative sample. If you are looking to assess the impact of your activated early action protocol, consult [chapter 8](#) and seek guidance from a researcher experienced in designing and implementing surveys that use propensity score matching or other statistical techniques. The Red Cross Climate Centre has experience supporting National Societies in designing and executing impact assessments.



Example: Surveys to understand impacts in an urban context

The Vietnamese Red Cross (VNRC) together with the GRC, IFRC, and the Climate Centre started the anticipatory action project focusing on heat waves in Vietnam in 2018. This was the first to bring anticipatory action into an urban context. But in a densely populated city with 16 million people, how do you find out who is most vulnerable and how extreme heat impacts them? The VNRC launched the Knowledge, Attitudes and Practices (KAP) survey, randomly sampling more than 1200 respondents in specific areas of Hanoi. Based on residents' understanding of heat wave impacts, results from the KAP study were used to inform the selection of the early actions.

Method H: Policy and practice review

While this could be considered part of an extensive literature review, consulting local policy documents can be a source of potential early actions and help you to understand how anticipatory action will fit within existing systems.

Documents to seek out include the following:

- Disaster risk management laws, rules, regulations, and plans: It is important to understand how the overall system works in order to ensure that actions complement existing structures.
- Contingency plans: These will help you to understand existing responses from the national to the community level.
- Climate change adaptation plans: Although usually aimed at longer-term interventions, they may include plans for acute response or contain actions that could be adapted to different timeframes.
- Evaluations of previous programs or humanitarian interventions: These will help you to understand what has been tried, what has worked, and what has not worked in your context.

Method J: Community (or stakeholder) ranking activities

Participatory community ranking exercises, whether in the context of a focus group discussion or not, may also be helpful in identifying priorities at the community-level. The IFRC Enhanced Vulnerability and Capacity Assessment (eVCA) toolbox offers valuable guidelines on how to conduct such activities.

Toolbox

Examples

 [Anticipatory action for Heatwaves in Viet Nam](#)

Tools and templates

 [Research planning template](#)

 [Template for potential Guiding Questions](#)

 [Focus group discussion guide for flood](#)

 [Examples and guidance for semi-structured interviews \(typhoons\)](#)

 [General guidance for focus group discussions](#)

 [Enhanced Vulnerability and Capacity Assessment \(eVCA\) guidance \(IFRC\)](#)

 [Toolkit on Protection, Gender and Inclusion in anticipatory action](#)

 [Risk assessment and vulnerability analysis \(Module 3\) in the Anticipatory Action in Fragile, Conflict-affected and Violent Settings toolkit](#)

 [SketchMap Tool](#)

Other key reads, documents and websites

 [IASC Early Action to El Niño/La Niña](#)

 [DesInventar](#)

 [EmDat](#)

 [Montandon](#)

 [DeltaResilience](#)

 [INFORM Index](#)

 [WorldRiskIndex](#)

 [ThinkHazard](#)

 [OpenStreetMap](#)

 [ALNAP](#)

 [full EAP templates and criteria](#)

 [simplified EAP templates and criteria](#)

 [Humanitarian Data Exchange \(HDX\)](#)
