IFRC

RAPID ASSESSMENT OF LAST-MILE EARLY WARNING SYSTEMS (EWS): USER'S GUIDE

CONTENIDOS

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Introduction

Early Warning for All (EW4All)

United Nations Secretary-General Antonio Guterres announced in March 2022 that the United Nations would adopt new measures to ensure that every person in the world is protected by early warning systems within five years, thus launching the Alerts Early for All (EW4All) initiative. In November 2022, at the COP27 organized by the UNFCCC, the EW4All Executive Action Plan was launched and approved.

The EW4All initiative calls for new specific investments totalling USD 3.1 billion over five years, to advance the four pillars of the Multi-Hazard Early Warning System (MHEWS) from a scientific and technical, political, and financial perspective, relying on continued and expanded collaboration.

Different organizations will lead the application of the four elements or pillars that make up the early warning chain:

- **Pillar 1: Disaster Risk Knowledge and Management;** led by the United Nations Office for Disaster Risk Reduction (UNDRR), with support from the World Meteorological Organization (WMO).

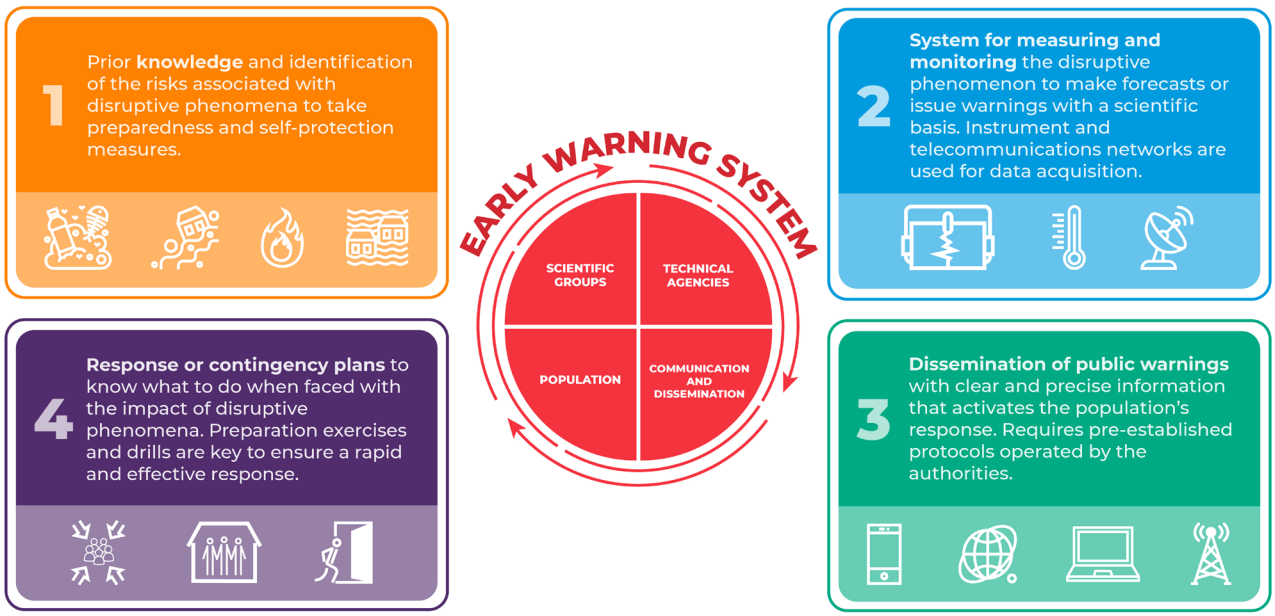
- **Pillar 2: Detection, Observations, Monitoring, Analysis and Forecasting of hazards;** led by the WMO and supported by the United Nations Development Program (UNDP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the UN Environment Programme.

- **Pillar 3: Warning dissemination and communication;** led by the International Telecommunication Union (ITU), with support from the International Federation of the Red Cross and Red Crescent Societies (IFRC) and the United Nations Development Program (UNDP).

- **Pillar 4: Preparedness and response capabilities;** led by the IFRC, with support from the International Organization for Migration (IOM), the UN Office for the Coordination of Humanitarian Affairs (OCHA), the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF), the United Nations Development Program (UNDP), the World Food Program (WFP), and the Risk-informed Early Action Partnership (REAP).

This initiative relies on the power of our network and on our positioning within the national/regional humanitarian landscape to drive forth systematic changes that address EWS deficiencies which cannot be resolved at the local scale, while identifying innovations based on local knowledge and practices that can be replicated in other contexts. Thus, the IFRC leads **Pillar 4, Preparedness and response capabilities**, and is working with partners such as the IOM, OCHA, FAO, WFP and REAP under a joint vision, an implementation plan, and a workplan, to translate early warnings into life-saving actions through effective response preparedness.

When an early warning is issued, it is a call to actors on the ground, including national and local authorities, businesses, communities, civil society community groups and individuals/households, to activate their own plans and take actions that can reduce the impact of potential disasters. To be sustainable over time, plans must be based on local priorities, knowledge and resources, and be integrated into government systems. Plans should be tested and updated periodically, and should take into account climate variability, climate change trends, and current risk factors.



For an Early Warning System (EWS) to function successfully, coordinated participation from all sectors is required.

The IFRC and the National Societies also support the development of Pillar 1, Disaster Risk Knowledge and Management, empowering communities in vulnerable situations to understand, identify and reduce risks, and to foster greater coordination among stakeholders, strengthening access, dissemination and use of existing information.

Likewise, the strengthening of Pillar 3, Dissemination and communication of alerts, to ensure that early warning services focus on people and are designed with them. This includes feedback mechanisms to help ensure messages reach people through trusted mass communication channels, in actionable formats, and in a timely manner to support decision-making.

In order to promote evidence-based decision-making within the framework of this global initiative, the IFRC — with support from internal partners of the International Red Cross and Red Crescent Movement (the Movement, hereinafter) — is developing a community diagnostic tool to systematically collect community perceptions about the Early Warning Systems (EWS) in their territories. This aims to support improvements and the development of comprehensive community-based solutions.

There are multiple experiences, good practices, and lessons learned that have been obtained from the development and operation of EWSs. These are based on bibliographic reviews of different resilience measurement tools, secondary sources, and important contributions from National Society partners and technical staff with extensive experience in EWS development, resilience, and community engagement.

1. Objective

The Guide for the **"Rapid Assessment of Last-Mile Early Warning Systems (EWS)"** aims to:

Provide clear guidelines to carry out preliminary assessments of Early Warning Systems (EWS), which will allow to determine the strengths, opportunities, and challenges at the community and local governance levels. This will also generate inputs to implement improvement and advocacy actions locally, nationally, regionally and globally.

The diagnostic tool systematically collects information from communities using methods, techniques, and tools that National Societies in the Americas are familiar with, such as the Enhanced Vulnerability and Capacity Assessment (EVCA), Community Engagement and Accountability (CEA), the Climate Resilience Measurement for Communities (CRMC) methodology, and Flood Resilience Measurement for Community (FRMC).

Who is this Guide for?

This guide has been especially designed for RCRC staff and volunteers, but it can be used by humanitarian personnel from United Nations agencies, Non-Governmental Organizations (NGOs), and municipal and local government agencies involved in the design, establishment, improvement, and operation of EWSs. It highlights good practices that can be used in future development or strengthening of EWSs and in overcoming existing challenges and gaps at the local level.

This guide seeks to promote collaboration and synergies, and leverage the knowledge that communities and the RCRC network possess to save lives, protect livelihoods, and alleviate the suffering of vulnerable people who are constantly affected by crises and disasters.

While the guide will be used by humanitarian and technical staff, the tools have been developed to be implemented at the local level (communities-local governance).

2. Definitions and concepts

2.1. What is an Early Warning System (EWS)?

The United Nations Office for Disaster Risk Reduction (UNDRR) defines EWS as:

"A set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organisations threatened by a hazard to prepare and act appropriately and in sufficient time to reduce the possibility of harm or loss"

For the purposes of this guide, the analysis of Early Warning Systems (EWS) focuses on the community level, addressing the various hazards that these communities face (floods, volcanic eruptions, earthquakes, epidemics, and tsunamis, among others) and their effects, which in many cases are aggravated by climate change. Furthermore, an EWS is conceptualized as a means for climate change adaptation, using integrated communication systems to assist communities in their preparation against climate hazards that have increased significantly in recent years.

An EWS is composed of four pillars:

1. **Disaster Risk Knowledge and Management,** ensuring that all countries have accessible, understandable, usable and relevant disaster risk information and assessment available to people at national and local levels.

2. **Detection, Observations, Monitoring, Analysis and Forecasting of hazards,** ensuring that all countries have reliable forecasting and monitoring systems (material and immaterial infrastructure) and policies that favor the optimization and sustainability of risk monitoring and early warning systems.

3. **Warning dissemination and communication,** adopting a people-centred approach to ensure the effective and timely dissemination of early warnings, so that they reach everyone, especially those most vulnerable.

4. **Preparedness and response capabilities,** to ensure that local governments, communities and vulnerable populations have the knowledge and means to take preventive disaster preparedness and response measures after receiving alerts with sufficient advance notice.

These four interrelated pillars shall be coordinated within and across multiple sectors and levels for the system to function effectively, and shall include a feedback mechanism for continuous improvement. A flaw in one of the pillars or a lack of coordination between them could lead to the failure of the entire system.

The Last-Mile initiative seeks to take explicit measures to reach the poorest, curb inequalities, and address discrimination to accelerate progress, thus ensuring that everyone can access, can understand, and is able to respond to alerts. An effective EWS[1] must include the following components:

- **Multi-hazard:** the system is designed to detect different hazards which can occur by themselves, simultaneously, or in cascade, and considers the complex scenarios that populations face, usually exacerbated by the effects of Climate Change.

- **End-to-end:** the system covers the entire spectrum from detection of hazards to action, which includes providing warning messages that are easily understandable for all users.

- **People-centred:** this implies designing systems with people in mind, seeking to empower them to act in a timely and appropriate manner to reduce potential damage.

2.2. What is a Multi-hazard Early Warning System?

Multi-hazard EWSs are designed to address multiple hazards or impacts in contexts where perilous events can occur individually, simultaneously, in cascade, or cumulatively over time, allowing for a more effective management.

A single-hazard EWS focuses on a single type of hazard, while a multi- hazard EWS has a broader focus, capable of detecting and managing multiple types of risks, providing greater resilience and responsiveness to a variety of situations.

In a single- hazard EWS, response strategies and community actions are planned according to the risks and characteristics of that specific hazard; however, in a multi-hazard EWS, they are designed to be flexible and quickly adaptable to different types of hazards. This involves more complex planning, as responses must consider the possibility of multiple hazards occurring at the same time or in sequence.

A multi-hazard EWS that can issue alerts for more than one hazard increases the efficiency and coherence of such alerts through coordinated and compatible mechanisms and capabilities, where various disciplines take part in the accurate monitoring and identification of hazards. These systems are known as Multi-hazard Early Warning Systems (MHEWS).

Currently, the implementation of MHEWS poses a challenge. Nevertheless, their relevance has been acknowledged in various initiatives, as well as by disaster risk management systems, organizations, and agencies working with EWSs.

[1] UNDRR. 2022. Early warnings for all (EW4All). Available at: https://www.undrr.org/es/early-warning-for-all

2.3. What is a people-centred Early Warning System?

These are systems that are developed, managed, and maintained by the community itself. In this process, people/community empowerment lies at the core. Here, the role of organizations and institutions is to advise and facilitate the active and meaningful participation of all community members.

EWSs are anchored in and managed by communities. They are based on a "people-centred" approach that empowers individuals and communities threatened by different events to act early and appropriately to reduce the possibility of personal injury, health damage, loss of life, property damage, environmental damage, and loss of livelihoods.

To establish a people-centred Early Warning System (EWS), the active participation of institutions, agencies, national DRM systems, and organisations that work closely with communities is key. These entities should commit to providing support and resources, empowering and training local communities, and developing local policies that foster the effective implementation of early warnings for the benefit of all.

Ultimately, the EWS will be owned by the community and, usually, the terms "people-centred" and "community-based" are interchangeable.

3. EWS Guiding Principles

The International Federation of Red Cross and Red Crescent Societies (IFCR) has established 13 guiding principles [3] to assess the feasibility and suitability of an Early Warning System. These principles not only consolidate the necessary foundations for designing and strengthening an Early Warning System, but also make up the basis on which this diagnostic tool is based.

EWS Guiding Principles

- **Principle 1 -** Integrate within Disaster Risk Reduction (DRR) — EWS is not stand-alone
- **Principle 2 -** Aim for synergy across levels: community, national and regional/global
- **Principle 3 -** Insist on multi-hazard EWSs
- **Principle 4 -** Systematically include vulnerability
- **Principle 5 -** Design EWS components with multiple functions
- **Principle 6 -** Accommodate multiple timescales
- **Principle 7 -** Embrace multiple knowledge systems
- **Principle 8 -** Account for evolving risk and rising uncertainty
- **Principle 9 -** EWS without borders: target the full vulnerability and hazard-scape
- **Principle 10 -** Demand appropriate technology
- **Principle 11 -** Require redundancy in indicators and communication channels
- **Principle 12 -** Target and reach disadvantaged and vulnerable groups
- **Principles 13 -** Build partnership and individual engagement

[2] Mercy Corps and Practical Action. 2010. *Establishing Community-Based Early Warning Systems, Practitioner's Handbook.*
[3] IFRC. 2020. *Community Early Warning Systems: Guiding Principles.* Available at: https://www.ifrc.org/document/community-early-warning-systems-guiding-principles

4. Essentials of a “good” EWS

A community early warning system that functions optimally has four essential aspects:

- **Effectiveness:** The system is structured to ensure that early warning messages reach the last and most vulnerable person in the community. Early warning messages should help reduce disaster risks and help save the community’s human, physical, environmental, and financial capital. Effectiveness considers the proper management of resources to ensure that they are used in the most appropriate manner.

  An effective EWS is characterized by alert messages that are clear and accessible to all community members, especially those who are most vulnerable. Its success translates into immediate action, achieved through the commitment of both individuals and institutions, and resulting in the preservation of lives and in the protection of material assets.

  Lastly, the validation of an Early Warning System (EWS) involves carrying out periodic exercises such as drills, obtaining community feedback, and assessing their functioning when activated. This step is key to ensure the functionality and reliability of EWSs in emergency situations.

- **Efficiency:** The system must be managed efficiently and be effective in protecting lives and property in the event of a disaster. A community’s understanding and perception of the immediate danger must be clear and adequate. Efficiency includes timely dissemination of early warning messages, as well as attention to sustainability aspects from the initial implementation of the EWS, thus ensuring its ability to be maintained over time.

  Furthermore, comprehensive coordination with all actors in the community’s social fabric is key, as well as with local emergency structures, to ensure that actions do not occur in isolation and that their desired effect is achieved.

- **Equity:** The system is inclusive and integrates the voices of people in vulnerable situations. It considers and addresses the special needs of women, the LGBTIQ+ community, people with disabilities, the elderly, and children.

  In order to achieve equity, the design of the Early Warning System (EWS) must be carried out in a participatory and inclusive manner. This implies the integration of diverse perspectives and needs to address the specific aspects of all individuals in the community. It is necessary to adapt alert messages and response actions to the different groups in the community, focusing especially on those who are at greater risk.

- **Legitimacy:** People in the community deem early warning messages as authentic and interpret them appropriately, so as to address the situation and provide adequate responses. EWSs can be adopted and developed as part of a community’s common practices and culture.

  Community engagement plays a key role in the appropriation and trust that will be placed on the EWS. It allows for the identification of early warnings and actions that will be most appropriate and accepted by the community.

Forms for Community Assessment and Assessment with Local Authorities were developed to assess whether an EWS established in a community meet these essential aspects.

5. Steps in the EWS improvement process

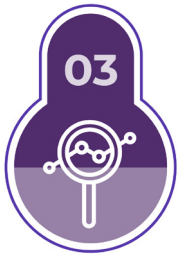
Although the guide's main objective focuses on offering clear guidelines for RCRC staff to carry out rapid diagnoses of a community-based EWS, it is important to acknowledge that strengthening these systems involves complementary phases. These phases will allow National Societies or any organization or agency that uses the tool to direct, assess, and plan improvement actions to increase these systems' quality and efficiency. A strengthening process structured in 5 phases is suggested below:

Preparation: involves carrying out actions and establishing key preconditions for effective community data collection. This process includes the precise identification of the community, the efficient organization of the participating staff, the careful selection of data collection methods and techniques, the active search for secondary information, the rigorous review and testing of assessment instruments, and the detailed logistical planning of field work, as well as special attention to security, among other relevant aspects.

It is suggested that the selected community be an integral part of the National Society's work strategy, either through a project or initiative that allows for the use of the information collected in the diagnostic. This will facilitate improvement actions or exert influence on other actors, thus optimizing the impact and relevance of the results.

It will also be important to conduct a desk review to include a broader profile/context of the country, the local governments, and the community. This means obtaining information prior to the field visit, relating to the existence of an EWS, authorities or organizations in charge of issuing and communicating alerts, the existence of multi-hazard alerts, as well as an overview of the community.

Assessment: The assessment the phase of the process that aims to gather initial information about the current state of the EWS and its potential areas for improvement. In this sense, it is suggested to use the tools and questionnaires provided in this guide. To ensure an effective assessment, it is suggested to carry out field visits with a participatory approach, and employing data collection methods that are appropriate for the community context, such as focus groups, interviews, and community tours, among others



Data analysis: This process involves the thorough inspection, filtering, transformation and modelling of the data, to unravel valuable information and reach solid conclusions that support the improvement actions to be taken. The resulting data must be presented in a way that suits the needs and the understanding of the different target audiences, with special attention to its usefulness for the communities involved.

Validation: Validation of results involves verifying and confirming the accuracy, reliability, and relevance of the results obtained in collaboration with the community. This procedure is crucial to ensure the credibility of the findings and support informed decision-making.

Feedback on these results must ensure that community opinions are included and that adjustments to the data are made whenever necessary. The aim is to address the community's real needs and preferences effectively.

Conducting a community exercise will be key to identify root causes and explore possible solutions. This participatory approach will help strengthen the validity and relevance of the data collected.

Action Plan: A plan for strengthening an EWS is a detailed document that sets out the specific steps and measures that are needed to achieve a desired target. This plan includes concrete actions, necessary resources, assignment of responsibilities, roles of those involved, and a detailed budget.

Such actions may include changes in the system's elements, introduction of new practices, adoption of innovative technologies, strengthening of community capacities, and improvement of coordination and communication mechanisms, among others. This comprehensive approach seeks to optimize the EWS and ensure its efficiency and quality.

Action and follow-up: This phase involves the implementation of the work plan, with constant monitoring of progress, and ensuring that those responsible are accountable for its implementation. The inclusion of simulation exercises or drills is recommended as an additional monitoring mechanism, which will help validate the effectiveness of the implemented actions.

6. EVCA tools for assessing EWSs in communities

The Enhanced Vulnerability and Capacity Assessment (EVCA) is a participatory community risk assessment process. It allows communities, with the support from National Societies, to assess and analyse the risks they face, explore where these risks come from, which community members are most exposed, what coping capacities they have, and what initiatives can be undertaken to strengthen these coping capacities and reduce disaster risks.

The EVCA is a process that:

- Strives for community engagement and empowerment
- Is focused on understanding risks and identifying risk reduction and adaptation actions
- Is multi-sectoral
- Is multi-stakeholder
- Serves as an entry point for all community work carried out by National Societies.

The EVCA methodology can be used to collect useful information for the preliminary diagnostic of an EWS, through the application of different tools such as the seasonal calendar, the historical profile, the social fabric, and the resilience star, among others. Therefore, the information collected by a **preliminary EWS diagnostic tool** can be enriched with information collected through an EVCA.

With this in mind, specific EWS considerations have been developed for several EVCA tools, which allow decision makers to assess the functioning of the EWSs that have been established in the community.

Considering that the first pillar of an EWS is risk knowledge, the EVCA becomes an important diagnostic tool to understand how communities understand hazards, how they behave in this regard, how they identify their vulnerabilities and levels of exposure, and how they identify the local decision-making resources and capabilities.

One of the EVCA's added values is that it uses a participatory methodology, enabling communities to be the protagonists in the process. This is why EWS-related information collected through these tools is valuable, as it helps define effective measures to strengthen the EWS.

6.1. How to incorporate EWS considerations into the EVCA tools?

EVCA tools are an effective way to conduct participatory community diagnostics and can be adapted to specific themes such as livelihoods, Protection, Gender and Inclusion (PGI), climate and environment, among others. These tools can also be used to collect valuable information on Early Warning Systems (EWS). Below, we share some key considerations for collecting information on the status of EWS through EVCA tools.

EWS considerations to prepare a Historical Profile

The Historical Profile aims to collect information about past events, analyse possible changes in the environment and in the population's behaviour, and understand the interrelations between various factors, such as diseases, major disasters, community crises, and preparedness and development programmes, among others. It is a powerful tool help a community express its opinions and share its history.

Historical profiles are key to understand a community's prevailing situation, including the causal relationship between hazards and vulnerabilities, and help to highlight changes over time.

Within the historical profile, it is possible to collect information on early warning initiatives developed in the past and on messages and alerts previously received, as well as their effectiveness and the subsequent disaster preparedness actions carried out by the RCRC, non-governmental organizations (NGOs), agencies, the educational community, or local governments.

In this sense, when preparing the historical profile, it is important to inquire about various aspects:

- Has equipment been installed to monitor hazards or disseminate alerts in the community's history? If so, is it currently working or when did it stop working?
- Have Disaster Preparedness activities that include responding to alerts been carried out?

- During past disasters and crises, has the EWS been activated at the community level?
- If it was activated, did it work as planned? Was the alert disseminated and did it lead to the community taking early action?
- If it was activated, what elements did not work as planned?
- Has the community received technical or financial support from organizations, agencies, or institutions for the design or strengthening of the EWS?
- Has the EWS been assessed through drills and simulations?
- Have community brigades or teams been organized to carry out functions and roles pertaining to the EWS?

The incorporation of early warning actions in the historical profile helps the community identify all the events, activities and initiatives carried out, and if they have evolved positively or negatively. It is especially relevant for younger generations, as it allows them to better understand the evolution of the EWS in recent years.

Suggested collection methods to prepare a historical profile include:

- nterviews with key informants, focus groups (including vulnerable groups), and desk reviews.

EWS considerations to prepare a Seasonal Calendar

The Seasonal Calendar can be used to illustrate a variety of events (hurricanes, floods, crises), experiences (recessions, long periods of drought), activities (fairs, harvests), and situations (social and economic), among other elements, that occur annually in the community. This calendar not only reflects the people's actions during the period, but helps us identify capabilities, customs, activities, actions, and changes in risk patterns that could aid or hinder the operation of an Early Warning System (EWS).

In order to incorporate these elements effectively, it is key to determine:

- Whether there are specific periods of the year in which the community receives information about hazards and risks that could affect it
- At what time of the year the community monitors and follows up on the conditions generated by a hazard that could affect them
- When preparedness activities are to be carried out, such as updating contingency plans, conducting disaster training, using monitoring equipment, and carrying out drills that include EWS activation
- Whether Early Warning Systems exist and in what periods of the year they are commonly activated
- The period in which educational and awareness campaigns on the importance of EWSs and how to respond appropriately to alerts are developed
- If there is a specific time of the year dedicated to community feedback activities on the perception and usefulness of warning systems
- In what time of the year the community meets with local authorities, organizations, or agencies related to Disaster Risk Management.

Furthermore, when preparing the seasonal calendar with EWS considerations, it is essential to address the various hazards to which the community is exposed (hydrometeorological, health, geological, among others) for analysis. Focusing on one specific hazard should be avoided in order to achieve a multi-hazard view.

Suggested collection methods to prepare a seasonal calendar include:

- Interviews with key informants, focus groups (including vulnerable groups), and desk reviews.

EWS Considerations for Community Mapping

Community Mapping provides a valuable opportunity to gather detailed information about a community's vulnerabilities and capabilities, as well as to record living conditions, behaviours, and environmental factors.

Community mapping raises awareness about the reality in the field, facilitates communication, stimulates debate, helps us understand complex spatial relationships, and allows for a visual comparison of information.

Some notable uses of community mapping include:

- Taking advantage of opportunities to collect information about community services and resources, such as clinics and schools, and to identify and locate risk areas
- Reflecting a community's behaviour
- Facilitating communication and information, especially regarding the identification of hazards, risk and vulnerability assessments, and identification of resources
- Marking key landmarks, such as major roads, rivers, and mountains, to get an overview of where the Early Warning System will be implemented
- Empowering community members to identify benchmarks for the implementation of an Early Warning System
- Determine the information that is to be represented, such as topography, routes, rivers, health centres, safety, local markets, community centres, water sources, land dedicated to livestock or agriculture, schools, and businesses, among others.

Community Maps developed through EVCAs include:

- Spatial Map: Provides an overview of an area's main characteristics in terms of space.
- Vulnerabilities/Hazards Map: Identifies vulnerabilities and hazards in a community.
- Capacities/Resources Map: Shows local resources and capacities, including gender differences or areas based on land use.
- (Optional) Aspirational Map: Used during the planning phase to portray community aspirations and help inspire actions.

Elements to consider:

- Location of hazard monitoring equipment and alert mechanisms in the community

- Details of functional resources and their locations (radio stations, media, connectivity, etc.)
- Evacuation routes, meeting points, and safe zones
- Exposed areas by hazard (urban, rural, industrial)
- Spatial relationships between elements and their impacts
- Additional information, such as infrastructure, distribution services, and environmental risk factors
- Gender and diversity considerations, as well as climate change adaptation programmes
- Identification of vulnerable populations or sectors.

Resources are key, but their use and handling call for adequate knowledge and skills. For this reason, it is necessary to identify aspects such as number of people trained in disaster preparedness, community members capable of interpreting forecasts and alerts, and those who are responsible for activating alarms and leading evacuation procedures.

Suggested collection methods:

- Direct observation
- Photographs (aerial, land)
- Focus groups
- Surveys
- Historical records
- Database analysis
- Consultation with local governments
- Collection of information from public institutions, universities, technical institutes, and organized civil society.

EWS Considerations to develop a Social Fabric (Venn Diagram)

This tool provides us with a detailed understanding of the perception and relevance of institutions, organizations, leaders, etc., and how they interact with each other. When applied to the community context where early warning systems operate, it offers us an overview of the community's perception of the actors who are involved in the design, operation, and sustainability of an EWS.

When creating the Venn diagram, it is important to keep in mind the following considerations:

Sectoral: Given the various sectors present in our scenario (public, academic, civil society, private sector, media, etc.), we must identify those that we consider relevant or that play a role in the EWS' functioning.

Jurisdictional: Acknowledging that a topic or project can impact different jurisdictional levels, each with unique characteristics and capacities for dialogue. The diagnostic seeks to strengthen the community component, to ensure that all people receive alerts and key messages and take early action.

Professional/Disciplinary: This dimension addresses the different kinds of "know-how" that are relevant when addressing an issue. Complex realities require that we consider different disciplines or knowledge in order to produce sustainable solutions.

Relational: The relational aspect is important when considering the types and levels of relationships between actors in all their dimensions. Understanding these relationships facilitates the design of effective linking strategies.

Power level: To understand the complexities of power dynamics and focus on the level of influence that each actor can exert regarding a specific issue or problem.

Positioning: Positioning refers to the level of closeness, support, or rejection towards a given initiative. This can change over time due to factors such as access to information, mutual influence, or underlying interests, among others.

When conducting a focus group with Institutions, Organizations, and Community Leaders, it is important to consider:

- Which institutions, organizations, or persons (leaders) are present in the community
- The predominant relationships within institutions and organizations (collaboration, conflict)
- What actors can support or hinder the EWS process
- Which institutions generate trust or credibility when providing information to the community
- How institutions, organizations, or leaders communicate with the community
- Which institutions within the community have worked on EWSs
- Suggested collection methods include community focus groups, institutional and organizational focus groups, institutional SWOT and review of secondary information.

Suggested collection methods include:

- Community focus groups, institutional and organizational focus groups, institutional SWOT, and desk reviews.

By key actors [4] we are referring to those individuals, groups or institutions whose participation is key and indispensable to achieve the purpose, objectives and goals of the initiative. Key actors have the power, the capacity, and the means to facilitate or hinder the development of a proposal. Some of their main characteristics are: 1) being a part of the community under analysis, and representing a given group's legitimate interests; 2) having functions and competencies directly related to the project's objectives; 3) having the capacities, skills, knowledge, infrastructure, and resources to propose, address and solve scientific-technical problems; 4) having funding mechanisms or donor resources; 5) having management and negotiation capacities with the necessary government entities and/or levels to facilitate building consensus and reaching agreements.

Suggested methods for creating a social fabric include:

[4] Marvin Melgar Ceballo. 2012. *Manual para el desarrollo de mapeo de actores claves (MAC).* Mexico: Proyecto Municipios y desarrollo sustentable.

- Community focus groups, institutional and organizational focus groups, Institutional SWOT.

EWS Considerations to develop a Social Fabric (Venn Diagram)

The Resilience Star is a participatory tool used to produce, consolidate, and analyse information on a community or group's vulnerabilities, capacities, and risks, and to visually present such data in a way that fosters community ownership and planning.

According to a study conducted by the IFRC, resilient communities have six specific characteristics [5]:

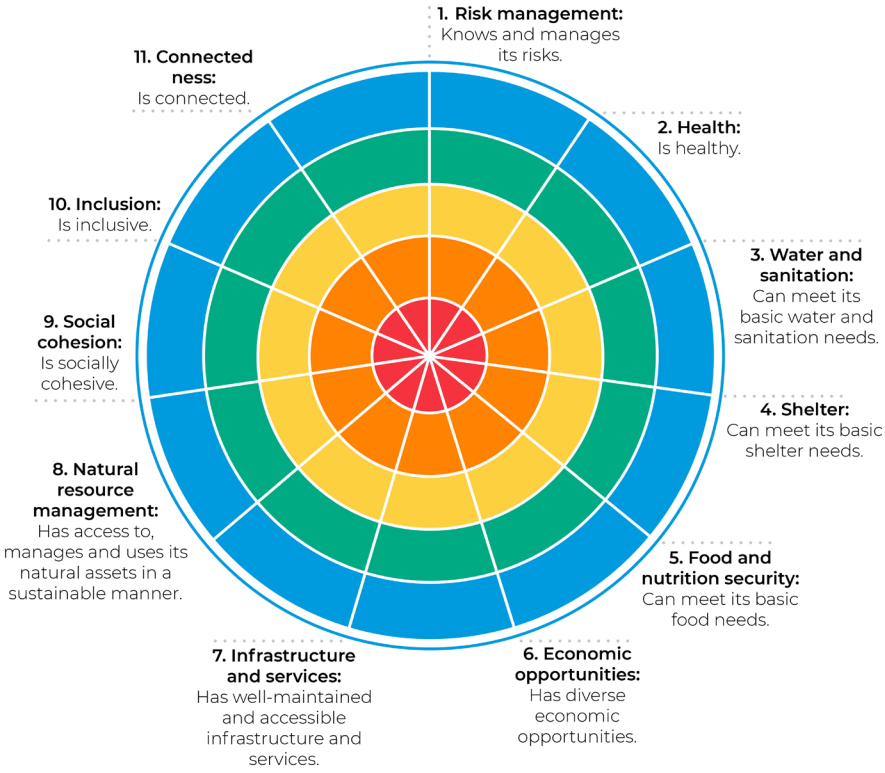
- Risk knowledge
- Social cohesion
- Economic opportunities
- Natural assets
- Infrastructure and services
- Connectedness.

Recent applications of the Road Map to Community Resilience have highlighted the need to further breakdown the six characteristics into 11 dimensions that reflect the RCRC's areas of work or expertise, making it applicable to programming as shown in the following graph.

A RESILIENT COMMUNITY:

According to the Road Map to Community Resilience (IFRC), there are 11 dimensions that make a community resilient.

These dimensions focus on functional characteristics that a community must maintain in order to prepare for, reduce the impacts of, cope with, and recover from the effects of shocks.



Using these 11 dimensions, it is easier to engage and accompany communities to discuss their relevant resilience dimensions and how they relate to risk (and its determinants: vulnerability and capacity). This establishes how the community perceives its vulnerabilities and capacities, and guides them to assess these across the 11 dimensions, enabling a more measurable approach.

[5] In the IFRC, especially in the Community Resilience Framework, we talk about the "characteristics" of resilient communities. These align perfectly with the human, social, physical, natural, financial, and political resources that many resilience frameworks from similar organizations refer to.

These dimensions are also important to ensure the proper functioning of an EWS, facilitating the assessment of how communities are prepared to receive and respond to warnings. For instance, it can aid in determining whether a community has the capacity to understand a warning and take action accordingly, whether it has safe shelter infrastructure in the event of an impending disaster, whether it has adequate evacuation plans, whether there are effective communication networks to disseminate alerts, whether it is connected to other communities or local governments, and whether the population is knowledgeable and aware of the risks and safety measures.

The dimensions proposed by the Resilience Star have been considered as key elements to identify existing gaps in an EWS' functioning. Moreover, the community diagnostic form has been adapted to process the information collected under the 4 EWS pillars using the same methodology of the Resilience Star.

7. EWS Diagnostic Methodology

The assessment form that accompanies this Guide is the essential tool designed to facilitate the structured data collection of Early Warning Systems (EWS). This form allows users to accurately identify strengths, weaknesses, opportunities and challenges in local governance and community contexts. By collecting key information, the form provides a solid information base for decision making for EWS strengthening.

The forms are made up of questions that allow the user to assess/evaluate the existing gaps, in order to define next steps when strengthening the four pillars of an early warning system:

- *Pillar 1: Disaster Risk Knowledge and Management*
- *Pillar 2: Observations and Forecasting*
- *Pillar 3: Warning dissemination and communication*
- *Pillar 4: Preparedness and response capabilities*
- *Cross-cutting dimension: trust*
- *Cross-cutting dimension: behaviour*

How to use the Diagnostic forms?

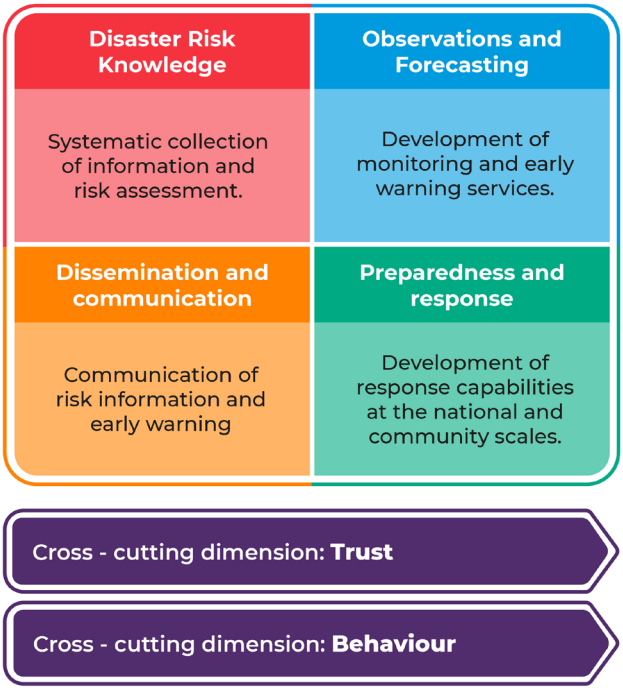
The Community Assessment Form is intended to be completed at the community level and can be implemented through focus groups or interviews with community leaders. The form is available in Excel and KoBoToolbox for use on the web or on mobile devices.

The Assessment with Local Authorities Form is intended for the local governance level and relies on the "Analysis of community-level gaps for people-centred early warning systems checklist", which is based on the existing work by the Caribbean Disaster Emergency Management Agency (CDEMA), CREWS and WMO.

7.1. Preliminary Community Diagnostic Form

This is a tool used to collect information and opinions from community members on various aspects related to an EWS. Its purpose is to determine the current status, gaps and challenges with regards to its operation and sustainability. To this end, this guide proposes an **"Analytical Framework"** to generate reports that can be submitted to key stakeholders and serve as input for decision-making and to plan strengthening actions.

The information collected through the diagnostic tools is based on the perception, the skills and knowledge, and the confidence levels of community members who participate voluntarily. This information may only represent a portion of the community, so it is recommended to consult other key actors and review secondary sources as well.



The form is structured as follows:

Overview: a brief introduction and instructions on how to fill out the form.

First set of questions: general information about the interviewers, the site where the diagnostic will be carried out, and the type of application to be used (group or individual).

Second set of questions: community introduction and consent to participate in filling out the form.

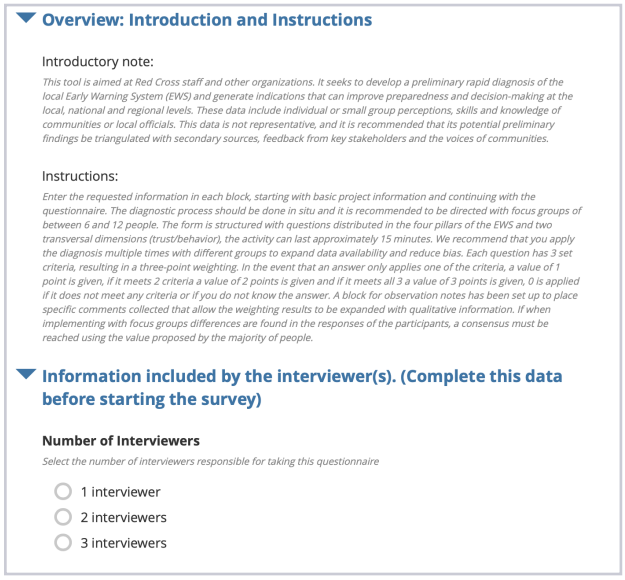
Third set of questions: related to the 4 pillars of early warning systems and the 2 cross-cutting dimensions (related to trust and behavior) are distributed among close- and open-ended questions.

Fourth set of questions: aimed at concluding the diagnosis and identifying innovative practices that can be replicated in other EWSs.

The diagnostic process must be carried out on-site and is recommended for focus groups composed of 6 to 12 people. The form is structured with questions that are distributed across the four EWS pillars and two cross-cutting dimensions (trust and behaviour). The activity can last approximately 15 minutes. It is recommended to conduct the diagnostic several times with different groups, in order to increase the data availability and reduce bias. Each question has 3 established criteria, which generates a weighting based on three points. If a response only applies to one of the criteria, a value of 1 point is given; if it meets 2 criteria, a value of 2 points is given; if it meets all 3, a value of 3 points is given; if it does not meet any criteria or if the answer is unknown, a value of 0 is given. A space for observation notes is available to place specific comments, thus enabling the expansion of the weighting results with qualitative information. When finding differences between focus groups and participant responses, a consensus should be reached using the value proposed by the majority.

Each pillar and dimension include spaces for follow-up "comments", designed to collect high-quality supplemental data that strengthen evidence-based decision making. Follow-up questions may be asked if deemed necessary by the focus group's moderator. Likewise, the information gathered in these spaces will be fundamental to identify gaps and capacities related to the evaluation criteria established in each question. Therefore, it is crucial that the evaluators ensure that the form is filled out completely and accurately.

Below are screenshots of the KoBoToolbox form viewed from a mobile device, as well as a direct link to the web version. Whenever possible, it is recommended to use the mobile version of KoboCollect. Link: Community Form - Web Version.



Overview: Introduction and Instructions

Introductory note:

This tool is aimed at Red Cross staff and other organizations. It seeks to develop a preliminary rapid diagnosis of the local Early Warning System (EWS) and generate indications that can improve preparedness and decision-making at the local, national and regional levels. These data include individual or small group perceptions, skills and knowledge of communities or local officials. This data is not representative, and it is recommended that its potential preliminary findings be triangulated with secondary sources, feedback from key stakeholders and the voices of communities.

Instructions:

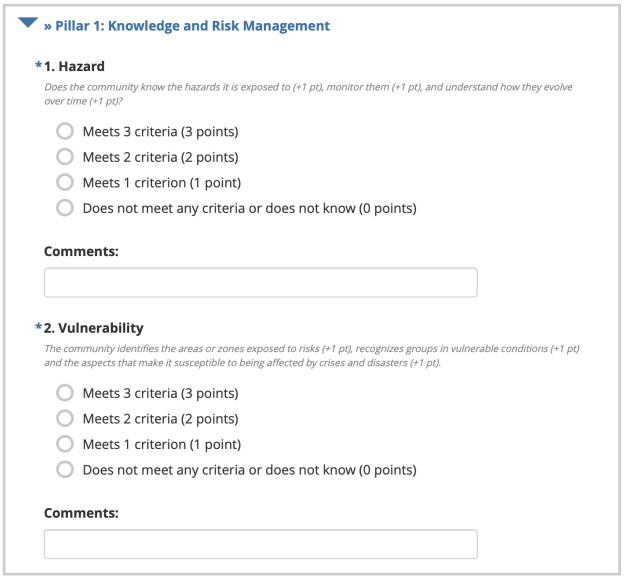
Enter the requested information in each block, starting with basic project information and continuing with the questionnaire. The diagnostic process should be done in situ and it is recommended to be directed with focus groups of between 6 and 12 people. The form is structured with questions distributed in the four pillars of the EWS and two transversal dimensions (trust/behavior), the activity can last approximately 15 minutes. We recommend that you apply the diagnosis multiple times with different groups to expand data availability and reduce bias. Each question has 3 set criteria, resulting in a three-point weighting. In the event that an answer only applies one of the criteria, a value of 1 point is given, if it meets 2 criteria a value of 2 points is given and if it meets all 3 a value of 3 points is given, 0 is applied if it does not meet any criteria or if you do not know the answer. A block for observation notes has been set up to place specific comments collected that allow the weighting results to be expanded with qualitative information. If when implementing with focus groups differences are found in the responses of the participants, a consensus must be reached using the value proposed by the majority of people.

Information included by the interviewer(s). (Complete this data before starting the survey)

Number of Interviewers

Select the number of interviewers responsible for taking this questionnaire

- 1 interviewer
- 2 interviewers
- 3 interviewers



» Pillar 1: Knowledge and Risk Management

***1. Hazard**

Does the community know the hazards it is exposed to (+1 pt), monitor them (+1 pt), and understand how they evolve over time (+1 pt)?

- Meets 3 criteria (3 points)
- Meets 2 criteria (2 points)
- Meets 1 criterion (1 point)
- Does not meet any criteria or does not know (0 points)

Comments:

***2. Vulnerability**

The community identifies the areas or zones exposed to risks (+1 pt), recognizes groups in vulnerable conditions (+1 pt) and the aspects that make it susceptible to being affected by crises and disasters (+1 pt).

- Meets 3 criteria (3 points)
- Meets 2 criteria (2 points)
- Meets 1 criterion (1 point)
- Does not meet any criteria or does not know (0 points)

Comments:

Community Assessment Form Questions:

Pillar 1: Knowledge and Risk Management

This pillar refers to the knowledge that communities have about the risks to which they are exposed, which result from the interaction between the hazards (threats) and the vulnerabilities (weaknesses) to which they are exposed in their location. This enables people, warning systems, and responses to be better prepared.

1. Does the community know the hazards it is exposed to (+1 pt), monitor them (+1 pt), and understand how they evolve over time (+1 pt)?
2. The community identifies the areas or zones exposed to risks (+1 pt), recognizes groups in vulnerable conditions (+1 pt) and the aspects that make it susceptible to being affected by crises and disasters (+1 pt).
3. In the design of early warning systems, community engagement is considered (+1 pt), the representation of various actors in that community is ensured (+1 pt), including groups in vulnerable conditions (+1 pt)
4. Based on knowledge of hazards and vulnerabilities, the community is aware of the risks to which it is exposed (+1 pt), uses this knowledge to prevent, reduce or prepare for those risks (+1 pt) and shares this information with other actors at the local level. (+1 pt)
5. Leaders coordinate with agencies, organizations, and local governments to create opportunities for knowledge generation and studies on disaster risks (+1 pt) ensure that community members have access to these opportunities (+1 pt), and tailor such knowledge and study to be accessible to vulnerable groups (+1 pt)
6. Traditional and ancestral knowledge about disaster risks, including knowledge about bioindicators, is passed on to younger generations (+1 pt), the knowledge is used for preparedness, risk reduction and implementation of early actions (+1 pt), being recognized and considered by local authorities, agencies and organizations. (+1 pt)
7. How does the community obtain and share information about disaster risks (hazard, vulnerabilities and capabilities) and what are the reasons for their trust in such information?

Pillar 2: Detection, Observations, Monitoring

This pillar refers to instruments and tools that the community uses to monitor, follow up, and access predictions (forecasts) that can be used to establish parameters (thresholds) that allow it to emit timely alerts about each identified risk or hazard. It includes traditional and ancestral knowledge used by communities.

8. What are the means or resources that the community employs to monitor events that could have a negative impact and lead to a disaster?
9. The community has access to forecasting and warning services about events that could affect it (+1 pt), teams have been installed in the community to monitor hazards (+1 pt), and there are individuals trained to supervise the measuring and monitoring instruments. (+1 pt)
10. There are funds at the local government level that could be used to strengthen the EWSs (+1 pt), there are private resources destined to the implementation of actions to prepare or strengthen the EWSs (+1 pt), the community has a fund or carries out activities that generate income for the maintenance and sustainability of the EWSs. (+1 pt)
11. There is an alarm mechanism agreed with all members of the community (+1 pt), the selected alarm mechanism has community-wide coverage (+1 pt) and also takes into account the diverse needs of vulnerable groups. (+1 pt)
12. The community is aware of the source of the forecasts (+1 pt), receives them in a timely manner (+1 pt) and considers them to be reliable and consistent. (+1 pt)
13. The community integrates indigenous and ancestral knowledge about the environment in the monitoring of hazards, the species of fauna and flora are monitored by the community (+1 pt) and incorporated as indicators in the EWS (+1 pt), the knowledge is recognized by the local authorities (+1 pt).

Pillar 3: Dissemination and communication

This pillar refers to the methods and means used to ensure that the alert reaches all members of the community, including those who are vulnerable, in a timely manner, with clear and actionable information through the preferred communication channels. It should also identify the key actors that the community trusts to disseminate this information.

14. What are the means or channels used by the community to access information and transmit alerts? (Examples include radio, mobile devices, television, social media, among others.)
15. The media and channels are accessible to the community (+1 pt), inclusive of vulnerable groups present in the community (+1 pt), and adjusted to the different preferences of community members. (+1 pt)
16. Alerts are broadcast to the entire community (+1 pt), are understood by all its members (+1 pt) and generate alert actions, mitigation or response actions. (+1 pt)
17. Alerts and alarms are issued in the languages, languages and dialects used by the community (+1 pt), involving them in their elaboration (+1 pt), a feedback mechanism is incorporated (+1 pt)
18. A feedback mechanism is in place to enable the community to express their complaints, concerns, and suggestions in relation to Disaster Risk Management (+1 pt), a response to this feedback has been provided (+1 pt) and the community's preferred means are used to facilitate communication (+1 pt).

19. The community has been surveyed to measure their degree of satisfaction with the Early Warning Systems (EWS) (+1 point). The information collected in the satisfaction surveys has been systematized and analysed (+1 point). In addition, actions have been taken to respond to and follow up on the dissatisfactions presented (+1 point)
20. What is missing from the alert for effective actions to be taken?

Pilar 4: Preparedness and response capabilities

This pillar refers to the actions implemented by communities to adopt preventive and mitigative measures, as well as to prepare and respond effectively to alerts. This is achieved through efficient organization, the development of plans, trainings, procedures, and drills, including the identification of evacuation sites, the reinforcement of basic structures, and the protection of livelihoods, among other initiatives. These actions allow the community to act appropriately when an alert is received.

21. What allows or prevents the community from participating in preparedness activities, awareness campaigns, training, or taking early action?
22. There is a community organization responsible for disaster warning and response (+1 pt), it is recognized and supported by community members (1 pt), with the capacity and equipment to carry out its functions (+1 pt)
23. The community has been trained to respond effectively to disasters (+1 pt). It also carries out mitigation actions (DRR) (+1 pt) and has access to early action mechanisms (+1 pt).
24. Members of this community know what to do in the event of an early warning (+1 pt), the community has an evacuation plan or strategy (+1 pt), and it considers the specific needs of vulnerable groups (+1 pt).
25. Constructions, equipment and/or tools exist to protect the assets and livelihoods of the community (+1 pt), the community has easy access to these resources (+1 pt) and their existence is known to all its members (+1 pt).
26. There is a community response or contingency plan that clearly defines the roles and responsibilities of community members (+1 pt), the plan is up to date (+1 pt), and is known to all community members (+1 pt).
27. Simulation exercises and community drills are carried out periodically (+ 1 pt), the coordination of these exercises is carried out in conjunction with local governments (+1 pt), and feedback is provided once they have concluded (+1 pt).
28. Can you give us 2 concrete examples of actions that have been taken in your community after receiving EWS alerts? If you have not received Alerts, please write “Does not apply”.

Cross-cutting theme 5 - Clarity of warnings and community trust

29. How much does your community trust the people or institutions that send the alerts?
30. How much does your community trust the alerts you receive?
31. Do you think your community’s trust in EWS alerts is high enough to motivate people to take immediate action when they receive them? If you select No or Medium: Could you tell us how we could increase your confidence levels in the alerts?
32. What are the factors that prevent or avoid the community to take actions to respond to alerts?

Cross-cutting theme 6 - Behaviours, beliefs and traditions

33. How much does the support given by community leaders to alerts influence what you do after receiving them?
34. If you selected Very Much or Moderately: Could you provide examples?
35. Before acting on an alert, do you consult with religious or spiritual leaders in your community? (Indicate how frequently)
36. If you selected Always or Sometimes: Could you tell us which religious or spiritual leaders you consult, and why you do so?
37. Have you ignored an alert or acted differently than recommended in the alert because of your personal beliefs or your community beliefs? (Indicate how frequently)
38. If you selected Always or Sometimes: Could you provide examples of this, and what has been the reason for acting differently?

Good practices:

39. QUESTION FOR INTERVIEWER: Have you identified innovative practice(s) in this EWS community, or would you like to add anything that would contribute to the analysis of this data?

8. Tips for implementing the Community Diagnostic

Preparation, organization and planning:

- Pre-approach the targeted communities through the National Society.
- Involve the National Society in reviewing and adjusting the questionnaire to local expressions (jargon), to ensure quality data collection.
- Become familiar with the form to ensure understanding of the questions and how to use it on a mobile device, desktop, or in MS Excel.
- Conduct adequate planning prior to mobilising to the field, defining key roles and logistical requirements, and carrying out prior coordination with community leaders (Activity Coordinator, interviewers, moderators, note takers, and logistics, among others).
- When distributing roles, make sure to assign a maximum of 3 people per focus group, otherwise it may be overwhelming for the group. If conducting individual interviews, these can be completed in pairs.
- Obtain general information about the community or group to be surveyed. This allows us to adapt the questions to a language that is easier for the community to understand.
- Conduct a pilot test of the survey with a small practice group to identify potential issues and better understand the form and the challenges in its implementation, in order to make adjustments before implementing it with the community.
- All staff involved in the diagnostic must be clear about its objective; otherwise, false expectations about the results could ensue.

The following recommendations are provided for the selection of participants for the consultation groups:

- Select individuals who have participated in activities associated with the EWS.
- Select individuals to ensure a balanced representation the different population groups in the target community (age range, gender, ethnic group, persons with disabilities, and minorities with low involvement in these dynamics, among other groups present in the local community).
- The CEA Guide can be used for focus groups.

Regarding the form:

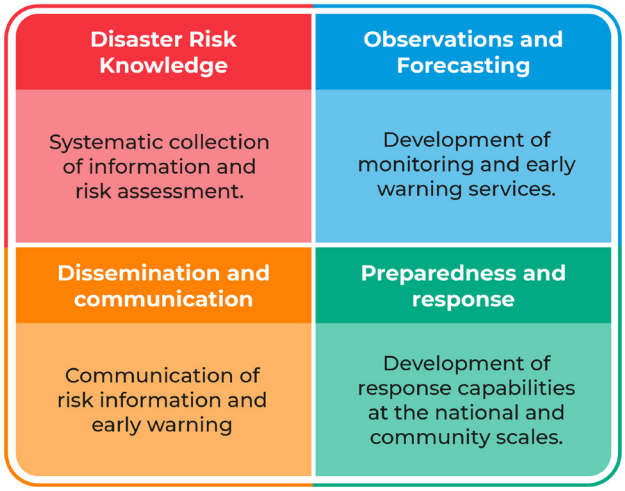
- The team must have a designated interviewer to answer questions that arise during the survey, as well as a note-taker to write down comments that complement and justify the answers.
- The form has blocks to include qualitative information. Make sure to fill them out to justify each question's scoring.
- The form has general fields that can be filled out in advance. Make sure to fill them out in order to optimize your time with the community (Overview of the diagnostic site, information about the surveying team, etc.).
- If Kobo Collect is used on a mobile device, make sure that the form is downloaded so that it can be used without an internet connection.
- The form includes a section to inform the community and obtain its consent to participate. Make sure that this is understood before starting.

(For more information, see Annex 1)

8.1. Assessment with Local Authorities Form[6]

The Assessment with Local Authorities Form should be completed with the actors at the local governance level, that is: municipal authorities, local risk management systems, and other key actors related to the EWS development and operation, whenever possible.

The form's purpose is to conduct a diagnostic on the knowledge pertaining to the risks, legislation, resources, commitments, responsibilities, and active participation in the design, maintenance and management of the early warning system, from the perspective of the users who are involved in the system.



Pillar 1: Disaster Risk Awareness

1. Is there information available on threats or hazards, population vulnerability, and exposed elements or infrastructure at the local or municipal level?
2. If yes, who owns this information and what type of information is it (maps, reports, databases? Who can access it?)
3. Do you believe that the community understands the risks and impacts of climate change? (Modified from CDEMA)
4. Are there laws to ensure local governments have clear mandates for the implementation and operation of early warning systems? (Modified from IFRC Community Early Warning Systems: Guiding Principles)
5. Are risk assessments or analyses conducted with community engagement?
6. Do these assessments include the population's different capacities and needs (gender, age, disability, language, literacy)? (Modified from CDEMA)

[6] Based on the Community-Level Checklist for People-Centred Early Warning Systems, January 2024.

Pillar 2: Observations and forecasts

7. What monitoring and forecasting information is available to the community? What warning services are in place? Does the local government support the community surveillance system? (Modified from IFRC Community Early Warning Systems: Guiding Principles)
8. If yes, what kind? Are the systems connected (two-way communication)?
9. Are hazard parameters continuously monitored to generate accurate warnings in a timely manner? (Modified from CDEMA)

Pillar 3: Dissemination and communication of alerts

10. Have people been educated on how alerts will be disseminated, which sources are reliable, and how to react to alert messages? Do people trust and respect the institution in charge of issuing the alerts? (Modified from CDEMA)
11. Have users (target community) been consulted on the design of alert messages and early actions to ensure that the community easily understands the information and uses traditional knowledge (e.g., indigenous knowledge) as appropriate? (Modified from EW4All Executive Action Plan)
12. Have previous alerts been disseminated through multiple communication channels and reached the entire population, particularly those in vulnerable situations? (Modified from EW4All Executive Action Plan and CDEMA)
13. If yes, what factors have contributed to success? If not, what problems have arisen?
14. Is there a locally led feedback process/mechanism that allows for continuous improvement of the system and its products (Modified from EW4All Executive Action Plan and CDEMA)?
15. Has the local government made alerts easily understandable to the community? Is there practical guidance for this?
16. If yes, what factors have contributed to success? If not, what issues have arisen?

Pillar 4: Preparedness and Response

17. Has the community responded to the alert messages? (For instance, whether they have evacuated or followed established protocols.
18. Have local disaster management, response, preparedness, and contingency plans been developed with participation from the community?
19. Have the plans been regularly tested and practiced by community emergency committees, emergency institutions, and agencies, as well as by the community itself?
20. Are community members informed about safety and protection options to reduce risks and protect themselves, their livestock, and their property, and are they aware of the available escape routes?
21. Are you aware of any resources in local government or other institutions and agencies that finance EWS-related activities (including preparedness and DRR) locally?
22. Do local governments or authorities have sufficient resources and operational capabilities to fulfil their mandate? (e.g., 24/7 alert centre with trained staff, activation protocols)
23. Are there pre-established funds from the local government available for the community to take anticipatory action based on forecasts?
24. Are the roles and responsibilities of all local stakeholders defined?
25. Are people with reduced, limited or restricted mobility, women, and the elderly included in the data that is collected, and are they actively involved in EWS planning and design?

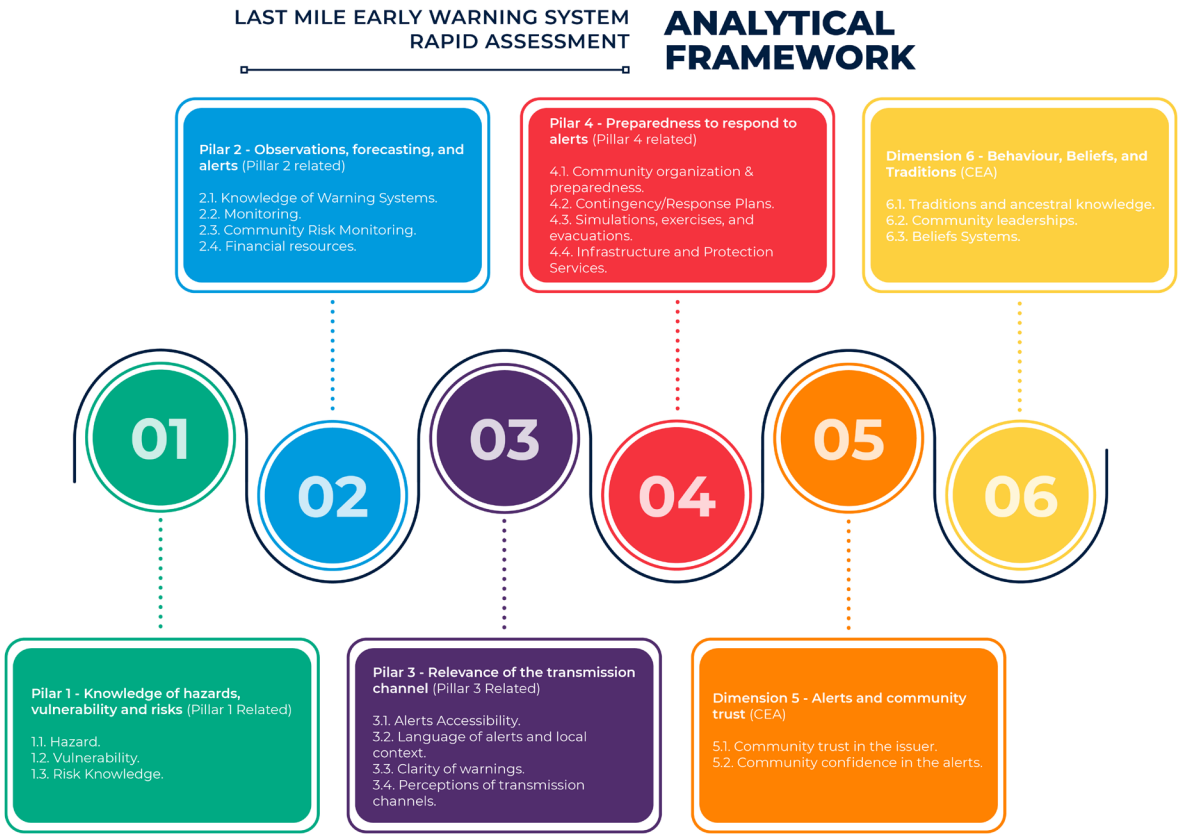
Disclaimer: The information collected through the diagnostic tools is based on the perception, skills, and knowledge of the community's population and local governance who voluntarily participated in the EWS diagnostic. Any person, agency, or organization that uses this diagnosis accepts the risk that the data and information contained therein may be incomplete, inaccurate, or representing only a part of the community. Therefore, it is recommended to consult other key actors and review secondary sources.

9. Analytical Framework

To conduct the data analysis, the following analytical framework is proposed. It is useful to organize and guide the analysis of the data that has been collected through the diagnostic tools, providing a way to systematically and coherently break down and examine the data.

The framework uses the four EWS pillars and the two cross-cutting dimensions (Behaviour and Trust), grouping and analysing the data collected from interviews and focus groups into 21 variables. This information is then systematized to generate report, which is composed of 5 sections.

(For more information, see Annex 2):



10. EWS Community Assessment with CEA approach

Community Engagement and Accountability (CEA) is a Red Cross Red Crescent approach to programming and operational development. It relies on a series of activities that place communities at the forefront of what we do, integrating communication and participation throughout the entire programme or operation cycles.

This approach helps us place communities at the centre of our actions, which improves community accountability, generates acceptance and trust, and enables better programme results. CEA helps communities play an active role in building long-term resilience, enabling them to increase their knowledge, skills, and connectivity, so as to achieve the necessary social and behavioural changes to address the underlying risks and vulnerabilities.

The CEA approach has 4 components:

- **Community participation and feedback**

Involving communities in programme design and implementation, in this case EWSs. Developing systems to listen to and act on their opinions, complaints, needs, and preferences.

- **Information as aid**

During a disaster or conflict, information is key. Applying CEA tools helps us share timely information with communities rapidly, efficiently, and on a large scale. An EWS designed using the CEA approach will be more effective and sustainable.

- **Behaviour and social change communication**

Applying the CEA approach helps the development of tailored EWS and messages that capture attention for social change or for safe and preventive behaviour.

- **Evidence-based advocacy**

Applying CEA tools helps create spaces for communities to have a say in the issues that affect them and to make their voices heard.

During the community and local governance diagnostic process, the CEA approach will be implemented through the following actions:

- Actively listening to the community and acting on the feedback and results obtained from the EWS diagnostic, taking measures that strengthens and improves it.
- Validating the communities' risk perception and providing information on alerts and risks that is available but was not accessible and understandable to the communities.
- Integrating feedback information into the EWS design to tailor it to the communities' needs and preferences. Ensure alternative mechanisms for communities that do not have access to technology, minorities, and people on the move.
- Advocating with local actors involved in EWS development and implementation, considering that community members are experts in the problems that affect them and in finding solutions. Nevertheless, it is not always easy to make themselves heard by the relevant authorities or organizations.

Incorporating the CEA approach in EWS design or improvement will ensure sustainability, appropriation, acceptance, and trust among all actors involved, leading to communities with greater knowledge, skills, and connectivity, and turning them into the main actors and recipients of people-centred EWS.

11. Annexes

11.1. Annex 1: Instructions No. 1 – Application

This sequence of steps is composed of three phases: Preparation, Application, Joint data analysis, and promotes the rapid and standardized implementation of the Last-Mile Early Warning Systems Assessment Tool. It is recommended to follow the steps outlined and, if necessary, adjust them to the different capacities of the National Society or implementing actor, as well as to the local context.

Instructions for the application of the Last-Mile Early Warning Systems Assessment		
1. Preparation phase. Consists of preparing the sampling design and technological resources, prior to the ***introductory meeting*** *(duration: 4 hours, including a 30-minute break and ice-breaker)*, where the concepts behind the tool and the soft skills necessary for its application are addressed, and a simulation of the application is developed.		
Step	**Description**	
1.1	**Sampling design** *(prepare prior to introductory meeting with staff):* Define how participants will be selected for the survey, taking into account the interviewer's skills and local conditions *(Sampling design).*	
	Resources: Support from staff with experience in Community Participation and Work, Accountability, Information Management, Data Collection, and Disaster Risk Management, among others.	**Recommendation:** Take into account: i) processing times; and ii) community and staff burnout.
1.2	**Preparation of equipment for data collection** *(Prepare prior to introductory meeting with staff):* Previously, install KoboCollect on the Android devices that will be used, download the form on said devices, and charge their batteries.	
	Resources: Support from staff with experience in Community Participation and Work, Accountability, Information Management, Data Collection, and Disaster Risk Management, among others.	**Recommendation:** Prepare one or two additional mobile devices and make sure to bring chargers in case they are needed in the field.
1.3	**Becoming familiar with the Early Warnings for All (EW4ALL) initiative** *(Addressed in Introductory Meeting – 20 Min):* Briefly review the initiative, its objectives, the roles of actors involved, and the importance of the data they will be collecting for this global initiative.	
	Resources: Early Warnings for All (EW4ALL) initiative website	**Recommendation:** Include all staff participating in data collection and analysis.
1.4	**Introduction to the Analytical Framework** *(Addressed in Introductory Meeting – 20 Min):* Briefly review the four pillars and two cross-cutting dimensions, along with their subtopics, to understand and their importance in planning future actions for the local EWS. ***See Annex 1.***	
	Resources: Analytical framework.	**Recommendation:** Does not apply

1.5	**Becoming familiar with the data collection tool and scoring criteria** *(Addressed in Introductory Meeting – 60 Min):* Review the questionnaire's sections, questions, and response options. It is recommended to pay close attention to the scoring (0, 1, 2, and 3) and to the taking of relevant notes on each question.	
	Resources: Last-Mile EWS Rapid Assessment Tool installed in KoboCollect.	**Recommendation:** Make sure attendees have a deep understanding of how the scoring is done, this is critical to the process.
1.6	**Quick Building of Soft Skills** *(Addressed in Introductory Meeting – 20 Min):* The group shares knowledge on how to interact with communities in a respectful and ethical manner, ensuring the quality of the collected data.	
	Resources: Refer to tools or documentation from each organization.	**Recommendation:** Focus this section on the skills needed to formulate the type of questions that make up this tool.
1.7	**Dialogue and agreements between interviewers about the tool's application** *(Addressed in the Introductory Meeting – 30 Min):* Attendees are divided into groups and discuss the main challenges of the tool and how to approach it. Afterwards, they return to a plenary session and agree on strategies.	
	Resources: Does not apply.	**Recommendation:** These strategies should be focused on and applied during the field operation.
1.8	**Individual testing of the tool's application** *(Addressed in the Introductory Meeting – 45 Min):* The attendees are divided into two groups. Each attendee applies the survey to someone from the other group, then they switch. Afterwards, they give each other feedback to improve the survey's application.	
	Resources: Last-Mile EWS Rapid Assessment Tool installed in KoboCollect.	**Recommendation:** Encourage the application of this survey as it would be done in the field.
1.9	**Closing remarks to strengthen data collection in the field** *(Addressed in Introductory Meeting – 15 Min):* Invite the team to share the feedback received when applying the survey and review the agreements made on scoring and making comments.	
	Resources: Does not apply.	**Recommendation:** Reinforce the scoring and commenting criteria.

2. Application phase: Field tasks aimed at applying the tool through the survey, the focal group, or, in the best case, both.

Step	Description	
2.1	*(If applying the survey)* **Mobilization:** Arrival of team at the targeted community following the organization's procedures.	
	Resources: Organization's guidelines.	**Recommendation:** Does not apply.
2.2	*(If applying the survey)* **Testing of equipment:** Before starting, test the equipment.	
	Resources: Does not apply.	**Recommendation:** Check mainly the battery charge.

2.3	*(If applying the survey)* **Review sampling design:** If necessary, review the sampling design (Goals, routes, etc.).	
	Resources: Sampling design document.	**Recommendation:** Does not apply.
2.4	*(If applying the survey)* **Survey application:** Data collection according to determined criteria. It is recommended to carry out the survey in pairs: one person asks the questions using a paper form, while the other enters the data in the KoboCollect application.	
	Resources: Last-Mile EWS Rapid Assessment Tool installed in KoboCollect.	**Recommendation:** Prior work conducted with the community will make access easier.
2.5	*(If applying the survey)* **Safe withdrawal:** Estimate the time it will take to carry out the last survey before leaving and returning to the starting point.	
	Resources: Operation plan.	**Recommendation:** Do not apply the last survey if you do not have enough time before the withdrawal.
2.6	*(If conducting a Focus Group)* **Setting setup:** Setting up the site where the FG will take place, ensuring the participants' safety, privacy, and well-being.	
	Resources: Does not apply.	**Recommendation:** Take into account the local climate in order to provide hydration.
2.7	*(If conducting a Focus Group)* **Invitation and welcome:** Invite the local population to participate in the FG, and place staff at strategic points for inviting and welcoming participants.	
	Resources: Does not apply.	**Recommendation:** Coordinate with local leaders.
2.8	*(If conducting a Focus Group)* **Instructions and informed consent:** Description of the FG's objective, procedure, anonymity, voluntariness, and processing and use of collected data. Ensure that all participants give their informed consent.	
	Resources: Printed copy of the survey.	**Recommendation:** Set up a *Suggestions Box* and encourage its use.
2.9	*(If conducting a Focus Group)* **Focus group application:** Conduct the FG with a moderator who interacts with the community using the printed survey, while two other members carry out the scorings and write down their observations in KoboCollect, without interrupting the FG's dynamics.	
	Resources: IFRC's CEA Focus Group Discussion Guide, or refer to the tools of each organization.	**Recommendation:** Make sure all participants' voices are heard.
2.10	*(If conducting a Focus Group)* **Closing and Safe Withdrawal:** Following the operation plan, manage the FG for it to end at the scheduled time.	
	Resources: Operation plan.	**Recommendation:** Does not apply.

3. Joint Data Analysis Phase: Rapid and standardized data processing and joint analysis of preliminary data with the staff who collected the data and who has local knowledge to propose recommendations that are timely, measurable, and tailored to the local context.

Step	Description	
3.1	**Data processing:** Calculation of concentrations and averages, and visualization of data according to the reporting template. **See:** *Data processing instructions: Rapid Assessment of Last-Mile EWS Tool.*	
	Resources: *Data processing instructions: Rapid Assessment of Last-Mile EWS Tool.* Reporting template.	**Recommendation:** Assign a person who will be in charge of data processing. Support from staff with experience in Community Participation and Work, Accountability, Information Management, Data Collection, and Disaster Risk Management, among others.
3.2	**Joint Analysis of Preliminary Data** *(Addressed in Joint Data Analysis Meeting – 60 Min):* Joint analysis around the possible underlying causes of the detected findings, and formulation of operational recommendations.	
	Resources: Reporting template that includes preliminary data visualization.	**Recommendation:** Identify quantitative findings prior to the Joint Data Analysis Meeting – 60 min. Include the staff who collected the data and is familiar with the local context.
3.3	**Analysis of Internal Productivity and Lessons Learned** *(Joint Data Analysis Meeting – 15 Min):* Short conversation to analyse the operation, the lessons learned, and the challenges detected, and to define the next steps.	
	Resources: Does not apply.	**Recommendation:** Take note of the results, challenges, and perceptions mentioned in this short session, in order to monitor and assess progress.

11.2. Annex 2: Instructions No. 2 – Analysis Report (under development)

The following **sequence of steps,** composed of five sections, seeks to facilitate standardized data processing and rapid generation of reports:

1. Preparation of files and resources.

This section focuses on the prior structuring of the inputs necessary for data analysis and report preparation, ensuring its availability and accessibility. It includes the arrangement of the collected data archive and the opening of data models, ensuring that the original structures of the documents remain intact.

2. Backup and data cleaning.

This section creates a backup copy of the collected data and provides essential guidelines for initial data cleansing. This includes the removal of irrelevant records and the harmonization of key fields to preserve the integrity and quality of the subsequent analysis.

3. Updating data and graphics.

This section focuses on automatically updating the charts and data in the model file. It ensures that the information represented in the graphs reflects the most recent data in an agile and accurate way, allowing standardized processing of the results.

4. Updating graphics in the report and inserting Gauge graph.

It details the procedures for transferring up-to-date charts from the data repository to the report archive, ensuring consistent and accurate presentation. It includes instructions for inserting and resizing speedometer charts, which are critical for viewing the levels achieved by the community in each pillar.

5. Joint analysis meeting and final validation.

In this phase, a collaborative analysis is carried out with the actors involved in data collection. The extreme values (maximum and minimum) and their correlation with the EWS context within the humanitarian environment are examined, viable recommendations are designed, and strategic conclusions are assured, ensuring the robustness and applicability of the final report.

Please consider the following notes:

- Read the entire instructions and familiarize yourself with the necessary resources before starting. If you have any questions, please contact us using the email addresses located at the end of the document.
- Basic knowledge of MS Excel, or support someone who has it, is recommended.
- If you have modified the questionnaire's structure, these instructions, and their attached resources, will not be directly applicable. It is recommended to process the data manually using the COLORS, PIVOT TABLE and GRAPHS tabs in the RAPID_ASSESS_EWS DATA TEMPLATE file as guidance, or you can contact us for specialized support.

List of resources required to follow these Instructions	
Resource name	**Content and use**
KoboCollect data export	Data collected in the field for processing and analysis.
Folder: EWS_REPORT	Folder containing the necessary files to prepare the report.
FILE: RAPID_ASSESS_EWS DATA TEMPLATE	Excel template to process and clean up the collected data.
FILE: RAPID_ASSESS_EWS REPORT TEMPLATE	Word template to structure and submit the final report.

SEQUENCE OF STEPS. *(Please read all steps before beginning.)*

Section 1 - Preparing files and resources

1. Have the file (MS Excel) with the collected data at hand, which you can download from KoboCollect or have it sent to you by the project manager.

2. You will receive a folder entitled EWS_REPORT, which includes three files: This Instructions, the RAPID_ASSESS_EWS DATA MODEL (MS Excel) file, and the RAPID_ASSESS_EWS REPORT TEMPLATE (MS Word) file.
3. Open all three files and do not modify the column names in the MS Excel file.

Section 2 - Backing up and cleaning up data

4. Open the collected data file (an export of the KoboCollect results in MS Excel).
5. Copy all data except the headers (row 1).
6. Paste the data in tab 1. PASTE BACKUP HERE in the file RAPID_ASSESS_EWS DATA TEMPLATE (MS Excel) from **cell A2.** This tab is a backup copy.
7. Paste the same data in tab 2. PASTE DATA HERE AND CLEANUP from **cell A2.**
8. In tab 2. PASTE DATA HERE AND CLEANUP, unify the data in the fields Country, Province, Municipality and Community.
9. In that same tab 2. PASTE DATA HERE AND CLEANUP, count the records that did not give their informed consent and delete the entire row (right click on row number -far left- and "Delete").

Section 3 – Updating data and graphics

10. On the same tab 2. PASTE DATA HERE AND CLEANUP, go to the Data section of the top menu of MS Excel.
11. Click on the Refresh All button.
12. Go to the 5. GRAPHS tab and verify that the graphs have been updated.
13. Check the data and the graphs.

Section 4 – Updating graphs in report and inserting Gauge graphs

14. Copy each graph individually and paste it into the RAPID_ASSESS_EWS REPORT TEMPLATE file (MS Word) in its corresponding place according to Pillar or Dimension (use the colour code).
15. When pasting a graph, use the Layout Options and select "Square" to facilitate its positioning.
16. Paste the Gauge graphs as **images** in their corresponding place. To do this, use the "Paste as image" option in MS Word.
17. Do not adjust the size of the gauge graph, but rather crop the blank spaces right at the edge of the content and place it where the previous one was.
18. Include the text box with the gauge graph average by copying it from MS Excel and pasting it into MS Word. Increasing its size downwards to see its content and locate it appropriately.

Section 5 – Joint Analysis and Final Validation Meeting

19. During the previous steps, you may have noticed that the RAPID_ASSESS_EWS REPORT TEMPLATE file includes comments on each page; familiarize yourself with them.
20. Identify the criteria with higher and lower levels and include them in the corresponding sections.
21. Prepare related questions to be addressed during the **Joint Analysis Meeting.**
22. During the meeting, analyse the high and low points of the graph on page 3 and reflect on their relationships. This graph will give you an overview of the assessment, as well as priority topics to analyse during the session.
23. Analyse all the graphs in the **Reporting Template** following the comments included on each page.
24. Design actionable and measurable recommendations, aligned with local conditions and operations.
25. On page 10, include content you consider strategic, conclusions and/or key messages.
26. Review the final document, verify the data and ask others to read it.

11.2. Annex 3: CEA Tools[7]

- TOOL 5: Guidance on organizing focus groups
- TOOL 9: Information to be shared with the community checklist
- TOOL 17: Options for sharing assessments with communities

References:

- Community Early Warning Systems: Guiding Principles
- People-centred Early Warning Systems: Learning from National Red Cross and Red Crescent Societies
- Establishing Community-Based Early Warning Systems, Practitioner's Handbook, Mercy Corps and Practical Action, 2010
- What is VCA: an introduction to vulnerability and capacity assessment
- Enhanced Vulnerability and Capacity Assessment Toolbox
- The Flood Resilience Measurement for Communities (FRMC)
- Understanding the concepts and principles behind the CRMC approach
- Participation in projects about early warning systems and climate risk for the benefit of marginalized and hard-to-reach communities
- Community Engagement and Accountability: Putting communities at the centre of our actions - CEA-Leaflet-5
- A Red Cross Red Crescent Guide to Community Engagement and Accountability
- Analysis of community-level gaps for people-centred early warning systems checklist, CDEMA
- Multi-Hazard Early Warning Systems: A Checklist
- Community Engagement and Accountability (CEA) Toolkit

[7] Community Engagement and Accountability / IFRC / June 2016.

The International Federation of Red Cross and Red Crescent Societies (IFRC) is the world's largest humanitarian network, with 192 National Red Cross and Red Crescent Societies and around 14 million volunteers. Our volunteers are present in communities before, during and after a crisis or disaster. We work in the most hard to reach and complex settings in the world, saving lives and promoting human dignity. We support communities to become stronger and more resilient places where people can live safe and healthy lives, and have opportunities to thrive.

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