
Community mapping in health emergencies

Strengthening preparedness, response,
and resilience

Abstract

This document provides a comprehensive toolkit for community mapping to support emergency preparedness and responses for public health emergencies as defined by the International Health Regulations (2005), including from disease outbreaks, humanitarian crises and the consequences of natural hazards. The toolkit emphasizes the importance of understanding existing local resources, capacities and structures, and leveraging them to ensure that interventions are context-specific, inclusive and sustainable. Community mapping is an adaptable approach based on available resources rooted in meaningful participation that can be embedded within ongoing activities and aligned with broader emergency coordination mechanisms. The toolkit draws on the experience of international organizations in health emergencies, demonstrating that community engagement builds trust, strengthens resilience and improves health outcomes, including community protection. By applying the outlined participatory methodologies, emergency responders and health authorities can co-design and co-deliver interventions that leave no one behind.

Keywords:

EMERGENCIES

INFODEMIC

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Foreword

We, directors representing the WHO Regional Office for Europe, the International Federation of Red Cross and Red Crescent Societies (IFRC) Regional Office for Europe, and the United Nations Children's Fund (UNICEF) Europe and Central Asia Regional Office, are pleased to present this toolkit on community mapping.

This collaborative effort underscores a truth we all share: communities are at the very heart of preparedness and response to health emergencies. Community mapping is not only a method – it is the starting point for meaningful engagement. It enables a deeper understanding of who communities are, how they function and what they value, turning knowledge into action that is trusted, relevant and effective. By identifying at-risk groups, tailoring health advice, services and interventions, and building on local strengths, community mapping makes responses more inclusive, more equitable and ultimately more sustainable.

Our three organizations bring extensive experience in the European Region, where we have supported national and local authorities to strengthen preparedness and response by engaging with communities directly. Whether through community engagement, accountability, social sciences or communication for social and behavioural change approaches, the principle remains the same: communities must be listened to, engaged and empowered at every stage of the emergency cycle.

This toolkit is also a testament to the power of partnership. WHO, UNICEF and IFRC have long worked alongside governments, national societies and humanitarian partners. Yet it is when we join forces that our impact is truly amplified. Collaboration turns parallel efforts into collective strength, ensuring that communities are not only participants in emergency response, but equal partners in shaping it.

From the coronavirus disease pandemic to the war in Ukraine, from the mpox outbreak to the earthquake in Türkiye – and through the many other crises across the European Region – the past six years have made this lesson unmistakably clear. Faced with emergencies of historic scale, we saw how solidarity and partnership amplified impact, while fragmented approaches

left gaps. As European countries prepare for future emergencies, the need for joined-up action is greater than ever. Working hand-in-hand with national and local authorities, and keeping communities at the heart of all we do, we can build responses that are faster, stronger and more resilient.

This toolkit is designed to support that vision. It reflects the unique characteristics of the European Region – its vibrant civil society, high digital connectivity and exposure to recurring hazards. It is a practical resource for responders and health authorities across the Region, helping to embed community mapping and participatory approaches into every stage of emergency management. In doing so, it advances the goals of the Strategy and action plan on health emergency preparedness, response and resilience in the WHO European Region (known as Preparedness 2.0) and the Health emergency preparedness, resilience and response framework: turning lessons learned into lasting resilience and stronger protection for all.

Partnership with and for communities is our greatest strength. It allows us to protect lives, build trust and leave no one behind. When we work with communities – and when we work with one another – our results are not simply added together. They are multiplied.

Sincerely,

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Abbreviations

5W exercise	Who-What-When-Where-Why
AAP	accountability to affected populations
CEA	community engagement and accountability
COVID-19	coronavirus disease
CSOs	civil society organizations
HCD	human-centred design
IFRC	International Federation of Red Cross and Red Crescent Societies
MEL	measurement, evaluation and learning
NGOs	nongovernmental organizations
RCCE-IM	risk communication, community engagement and infodemic management
RCRC	Red Cross and Red Crescent
UNICEF	United Nations Children's Fund

Glossary

Accountability to affected populations:

an active commitment to use power responsibly by taking account of, giving account to and being held to account by the people humanitarian organizations seek to assist.

Civil society organization:

any non-state, not-for-profit, voluntary citizens' group that is organized on a local, national or international level.

Co-creation:

a collaborative process in which community members and stakeholders actively participate in the design, development and implementation of interventions, policies or services that affect them. It goes beyond consultation by recognizing communities as equal partners, valuing their insights, lived experiences, knowledge and capacities.

Community:

a group of people who share common characteristics, interests or affiliations. Communities may be defined geographically (e.g. neighbourhoods, villages), socially (e.g. ethnic or religious groups, people with disabilities). This includes both offline and online communities, as well as those formed around shared identities, experiences or goals. This can include organized communities, such as civil society organizations.

Community asset:

also known as a community resource refers to any individual, group, organization, infrastructure or service that contributes to improving the quality of community life and resilience. This can include i) individuals empowered to realize and use their abilities to build and transform the community (e.g. informal and formal leaders, volunteers, health workers); ii) community-based organizations providing services to the communities; iii) physical assets (e.g. infrastructure such as hospitals, schools, religious institutions, libraries, recreation centres, social clubs, unused buildings, private businesses); and iv) community services that make life better for some or all community members (e.g. public transportation, early childhood education centres, community recycling facilities, cultural organization).

Community engagement and accountability:

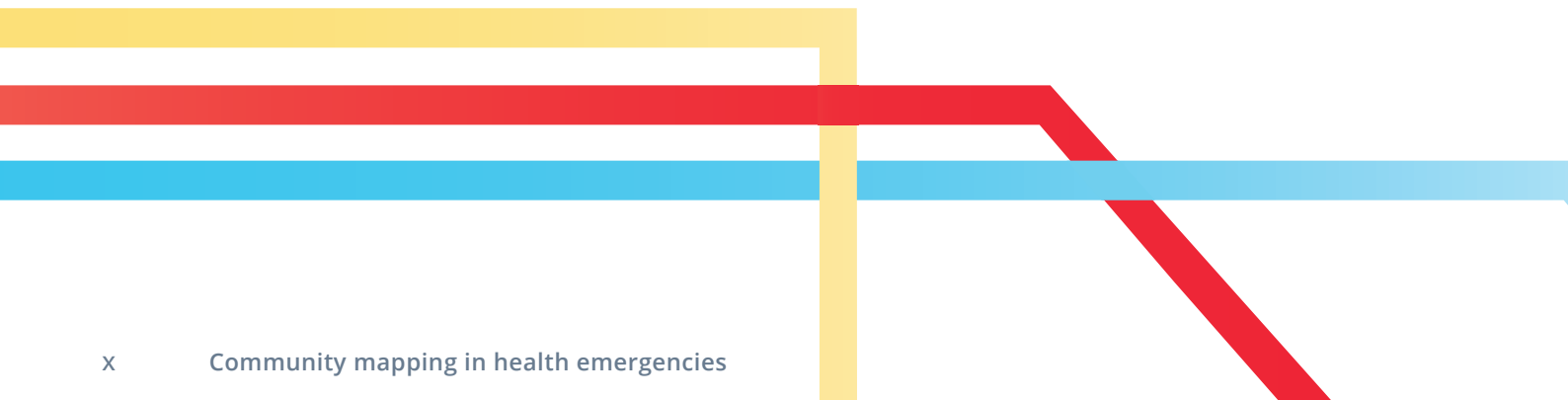
a way of working that recognizes and values all community members as equal partners, whose diverse needs, priorities, capacities and preferences guide responses to health emergencies. It integrates meaningful community participation, open and honest communication, and mechanisms to listen to and act on feedback within programmes and operations, using context-sensitive communication strategies that foster trust, strengthen resilience and improve the relevance and sustainability of interventions. Community engagement and accountability also promotes community-led decision-making, ensuring that communities are not only consulted but actively shape the design, implementation, and evaluation of emergency responses. It embeds accountability mechanisms that enable communities to hold responders to account and supports inclusive approaches that prioritize marginalized groups and adapt to local contexts. Through context-sensitive communication strategies, community engagement and accountability fosters trust, strengthens resilience and improves the relevance and sustainability of humanitarian interventions.

Community mapping:

a participatory process that involves identifying community composition, characteristics, resources, assets and capacities. For health emergency preparedness and response, this entails locating marginalized groups and identifying risk factors for hazards and public health threats in a given community. This exercise entails in-depth communication through participatory methods for community engagement in emergencies such as participant observation, interviews, focus group discussions, participatory assessments and feedback mechanisms to help identify local needs, resources, formal and informal structures, trusted sources of information, key people and local solutions. Community mapping feeds context analysis.

Community protection:

community-centred actions that protect those who are at risk or affected by the health and social impacts of the health emergency. It is one of the five subsystems of the WHO Health emergency preparedness, response and resilience framework. The approach focuses on strengthening systems for risk communication, community engagement and infodemic management; co-designing and delivering population and environmental interventions with communities, and coordinating multisectoral action to reduce the social and economic impacts of health emergencies.



Community stakeholder:

any individual, group or organization within a community that has an interest in or is affected by a particular issue, decision or intervention. This includes formal actors such as local authorities, health workers and civil society organizations, as well as informal influencers like religious leaders, youth representatives or trusted community members.

Disaster risk reduction:

a process aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

Disinformation:

incorrect, misleading or misattributed information circulated with a specific – including a political – agenda.

Formal structures:

a community structure that is intentionally organized, arising out of more extensive institutional arrangements, where clearly defined roles are assigned to individuals and where all members are bound by a common purpose, with roles that are primarily defined by the organizational context or stem from an institutionalized practice.

Informal structures:

the unofficial networks and relationships within a community, built on trust and regular contact. They include family ties, friendships, neighbours and trusted local figures (e.g. a health worker who is also a neighbour). These social networks are shaped by everyday interactions and influence how information is shared, decisions are made and support is mobilized during emergencies. Unlike formal structures, informal networks are often less visible but play a critical role in shaping community behaviour and resilience.

Health emergency preparedness, response and resilience framework:

the framework to strengthen national, regional and global capacities for managing health emergencies. This approach is guided by the “five Cs,” which are interlinked subsystems: collaborative surveillance, community protection, safe and scalable care, access to medical countermeasures and emergency coordination. Together, these subsystems aim to enhance countries’ ability to prevent, detect and respond to health threats while maintaining essential services and protecting health systems and communities.

Influencers:

key actors operating within formal or informal structures (or sometimes both) who are trusted individuals within the community and can shape community behaviour either positively or negatively. This is often context and emergency specific. Some examples include religious leaders/faith-based organizations, community leaders, youth, health workers, journalists, civil society organizations, women's groups or parent's associations, among others. Influencers need to be identified and selected based on each context, situation and community you are trying to reach.

Mental health and psychosocial support:

a composite term used to describe any type of local or external support that aims to protect or promote psychosocial well-being and/or prevent or treat mental health conditions.

Misinformation:

incorrect, misleading or misattributed information circulated without an underlying agenda or intent to harm.

Participatory approach:

a method of engaging community members directly in the design, implementation and evaluation of programmes, policies, services or interventions that affect them. Participation emphasizes collaboration, shared decision-making and the inclusion of diverse voices – particularly those of marginalized or at-risk groups.

Protection, gender and inclusion:

the International Federation of the Red Cross and Crescent approach and way of working to addressing causes, risks and consequences of violence, discrimination and exclusion in an integrated way. "Protection" and "inclusion" refer to specific actions taken to directly mitigate and eliminate the various risks people are facing and to meet the different needs they have in this regard. "Gender" is about addressing discrimination and understanding people's different needs, risks and capacities.

Protection from sexual exploitation and abuse:

a critical safeguard in emergencies to prevent and respond to misconduct by humanitarian workers and others in positions of power. During crises, affected communities – especially women, children and other marginalized groups – face heightened risks of exploitation and abuse. Protection from sexual exploitation and abuse measures include strict codes of conduct, reporting mechanisms, survivor-centred response services, staff training and accountability frameworks to ensure humanitarian assistance is delivered with dignity, respect and without harm. A strong protection from sexual exploitation and abuse approach reinforces trust, upholds human rights and protects those most at risk in emergency settings.

Risk communication, community engagement and infodemic management (RCCE-IM):

encompasses a broad spectrum of activities aimed at enhancing public health emergency preparedness and response. These activities include building the capacity of health authorities to communicate effectively with journalists and the public/affected community and collaborate with local civil society organizations on community empowerment projects.

- **Risk communication:**

the exchange of real-time information, advice and opinions among experts and individuals facing threats to their health, or economic or social well-being. This communication enables informed decision-making for health and is used alongside infodemic management and community engagement during public health emergencies.

- **Community engagement:**

a process of developing relationships and structures that engage communities as equal partners in the creation of emergency response solutions that are acceptable and workable for those they impact. The goal of community engagement is to empower communities to confidently share the leadership, planning and implementation of initiatives throughout the health emergency response cycle. The United Nations Children's Fund has developed Minimum Quality Standards and Indicators for Community Engagement to ensure the meaningful integration of community engagement standards in all aspects of community engagement practice, including project cycles, methodologies, participatory approaches, integration, coordination and resource mobilization.

- **Infodemic management:**

the systematic application of risk- and evidence-based analysis and approaches to manage the infodemic and mitigate its impact on health behaviours during health emergencies. Infodemic management aims to promote good health practices by listening to community concerns and questions, fostering an understanding of risk and expert health advice, building resilience to misinformation, and engaging and empowering communities to take positive action. It involves actionable steps from surveillance through social listening, verification, risk assessment and response strategies, including debunking and pre-bunking.

Vulnerability:

the conditions determined by physical, social, economic and environmental factors or processes that increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards. The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

Executive summary

This community mapping toolkit provides methodologies to support emergency organizations, national authorities and affected communities in identifying and understanding community members and stakeholders, community assets, capacities, trusted information sources and access pathways to hard-to-reach groups. It promotes participatory approaches to mapping that ensure interventions are designed and delivered with communities – not just for them.

Users will find guidance for both rapid, core mapping in time-sensitive contexts and full-scale mapping for preparedness phases or when resources allow. Mapping is broken down into three stages: pre-mapping, mapping and post-mapping. The toolkit also integrates gender, inclusion and accountability principles across all phases of the emergency cycle, ensuring that marginalized groups are not left behind.

The toolkit reflects the experiences and participatory approaches of the WHO Regional Office for Europe, the International Federation of the Red Cross and Red Crescent Societies (IFRC) Regional Office for Europe and Central Asia, and the United Nations Children’s Fund (UNICEF) Europe and Central Asia Regional Office, and is tailored to the European Region. However, its methodology is adaptable and can be applied globally.

The toolkit aligns with key institutional frameworks, including: WHO’s International Health Regulations (2005), Health emergency preparedness and response framework, and Strategy and action plan on health emergency preparedness, response and resilience in the WHO European Region (known as Preparedness 2.0); IFRC’s Community Engagement and Accountability; and UNICEF’s Core Commitments for Children in Humanitarian Action, and Minimum Quality Standards and Indicators for Community Engagement. Community mapping is more than a technical exercise – it is a strategic entry point for aligning emergency preparedness and response with broader institutional goals.

By leveraging community assets and integrating multisectoral approaches, the toolkit enhances emergency preparedness, response and recovery, with approaches applicable in both emergency and non-emergency contexts. It contains practical tools and templates for stakeholder mapping, surveys, interviews, focus group guides, participatory workshops and frameworks, and indicators for measuring success.







Introduction

Scope and methodology

This community mapping toolkit was jointly developed by the WHO Regional Office for Europe, the International Federation of the Red Cross and Red Crescent Societies (IFRC) Regional Office for Europe and Central Asia, and the United Nations Children's Fund (UNICEF) Europe and Central Asia Regional Office. The toolkit is designed as a field guide to identify and mobilize local resources, structures and community stakeholders to meet community needs during public health emergencies. It draws on lessons learned from recent crises – including the coronavirus disease (COVID-19) pandemic, natural hazards and humanitarian emergencies – and emphasizes participatory approaches to identifying needs and reach community members, including

those from marginalized groups. The toolkit is intended for use by:

- practitioners working in risk communication, community engagement and infodemic management (RCCE-IM);
- emergency response teams and health authorities;
- Red Cross and Red Crescent (RCRC) National Societies;
- WHO country offices; and
- UNICEF country offices.

The toolkit was developed through a multi-step process: firstly, initiatives from the WHO Regional Office for Europe, IFRC Regional Office for Europe and Central Asia and the UNICEF Europe and Central Asia Regional Office on community

mapping were critically analysed and their methodologies, strategies and outcomes reflected upon to identify tools and tips (tips are indicated with a light bulb) for health authorities and emergency responders. Secondly, in August–September 2024, a team at the WHO Regional Office for Europe carried out eight semi-structured interviews – six with community actors and two with experts at WHO country level – spanning central Asia, the Caucasus, eastern Europe, the Western Balkans and western Europe. A literature review on community mapping was also carried out, with relevant studies included in this toolkit to emphasize/support points made by those interviewed. The three author organizations met regularly to share resources, reflect on tips and assess practices and methodologies on community mapping. In 2025, experts, from the organizations, academia and civil society were involved in an external review of the publication.

The toolkit is set out as follows. This introduction Section goes on to present the background principles of community mapping and its role in the emergency life

cycle. Examples of community mapping by each of the three author organizations is also covered to demonstrate that it is essential for emergency response. The Step-by-step guide for community mapping Section introduces core mapping and full-scale mapping, including pre-mapping, mapping and post-mapping stages with guiding questions and approaches. The measurement, evaluation and learning (MEL) section includes frameworks and indicators for measuring success. Practical resources and actionable tips are included throughout the publication. Supporting materials/tools are included in the annexes: Annex 1 contains the questionnaire used for the eight semi-structured interviews; Annex 2 comprises the full suite of tools referenced in the toolkit, along with practical instructions for use; Annex 3 presents the literature review on mapping in public health emergencies; Annex 4 demonstrates the toolkit's alignment with international frameworks; and Annex 5 presents an analytical framework for community mapping to understand the key components for designing actions or adapting tools.

Background

Different organizations use distinct terminologies to describe community-centred approaches in emergencies, such as RCCE-IM (WHO), community engagement and accountability (CEA) (IFRC) and accountability to affected populations (AAP) (UNICEF). While these frameworks vary in emphasis, they all converge on the principle of meaningful community participation, feedback and protection throughout the emergency cycle. These approaches fall under the community protection subsystem of the Health emergency preparedness, response and resilience framework (1).

In the European Region, during the COVID-19 pandemic and subsequent emergencies such as the ongoing conflict in Ukraine, measles and mpox outbreaks and the earthquake that devastated parts of the Syrian Arab Republic and Türkiye in 2023, communities have rallied to support marginalized individuals by providing health services, interventions and supplies, and amplifying health information and advice (2). Identifying civil society organizations (CSOs), community influencers, key community members and community assets, along with special

considerations for health emergency preparedness planning, provides an avenue beyond the health system for reaching diverse population groups, increasing trust and access to culturally appropriate services (3).

The mapping of stakeholders and resources is key to strengthening systems for community engagement, establishing participatory mechanisms and building resilience by enhancing the capacity of local actors. Meaningful participation enables communities to define their needs, co-develop actions and contribute to sustainable solutions.

Community mapping integrates local knowledge into emergency preparedness and response, co-creating interventions, identifying and leveraging assets and establishing sustainable community structures (4,5). This approach contributes to the localization agenda, empowering communities to lead and shape humanitarian response. Community mapping is not limited to emergency contexts; tools and approaches commonly used in development and resilience-building settings can be adapted for emergency application (6–8).

Principles of community mapping

Before initiating a community mapping exercise, it is essential to consider the following guiding principles that ensure the process is ethical, inclusive, accountable and aligned with community needs.¹

- **Safety and do no harm:** do staff conducting the exercise understand the importance of treating personal and sensitive information confidentially during the follow-up, investigation and response to community feedback? Do staff conducting the mapping exercise understand how to engage with marginalized communities in ways that uphold dignity, foster trust and avoid reinforcing stigma or stereotypes?
- **Meaningful participation:** are diverse community members – across age, gender, other identity and vulnerability factors – actively involved in all stages of the mapping process, ensuring that everyone can exercise their rights equally?
- **Empowerment:** are the community's skills, knowledge and resources meaningfully leveraged by the exercise? Is the exercise accessible?
- **Understanding marginalized populations:** are marginalized people's perceptions and needs understood to inform the exercise?
- **Diversification of messages and channels:** does the exercise foresee the diversification of messages and channels according to the needs of the specific population?
- **Inclusion:** does the exercise understand social and gender dynamics, avoid stereotypes, use inclusive language and avoid stigma?
- **Informed consent:** has informed consent been obtained and documented for all forms of participation, including interviews, visuals, quotes and data collection, in line with ethical standards?

¹ It is important to note that CEA and AAP reflect these principles and their core elements – meaningful community participation, feedback mechanisms and protection.

- **Human rights:** do all activities consider current legislation and international commitments related to human rights?
- **Psychological support:** do staff conducting the mapping exercise have access to psychological support in case there are difficulties? Do staff conducting the mapping exercise understand referral pathways for psychosocial support, and are they trained to collect personal or sensitive data in a safe, respectful and non-distressing manner?
- **Preventing sexual exploitation and abuse:** Do staff conducting the mapping exercise understand their responsibility to report sexual exploitation or abuse by humanitarian workers, and are they aware of community resources for referral if cases arise? Are safe and confidential mechanisms in place for collecting personal data, obtaining informed consent and enabling community members to provide feedback or raise complaints?
- **Community-based approach:** does the exercise take into account pre-existing community structures and effective coping mechanisms, rather than working in parallel to them (where these are not harmful)? Does the exercise consider participation, ownership and empowerment of community members?
- **Responsiveness:** are mechanisms in place to ensure that community feedback leads to timely and visible action? Are communities informed about how their input has influenced decisions?
- **MEL:** is there a system to track how accountability principles are being applied throughout the mapping process? Are lessons learned used to improve future mapping exercises?
- **Community validation:** are findings and results shared back with communities for validation before being finalized? Is there space for communities to challenge or correct the data?

It is important to note that CEA and AAP reflect these principles and their core elements: meaningful community participation, feedback mechanisms and protection help create a foundation for addressing community needs across the emergency cycle. These principles can be operationalized through the following actions.

- **Developing a participatory approach:** involve affected communities in the design and implementation of the mapping process. This must take into consideration the nature and scale (Box 1) of the audience, and the type and stage of the emergency. This can be done by:
 - community-led mapping: enable spaces where affected communities create their own maps, using tools and resources provided by the toolkit;
 - participatory workshops: organize workshops to engage with affected communities, gather feedback, and ensure their needs and concerns are addressed – it is important to consider online and face to face spaces/activities.

- **Empowering communities:** provide capacity-building resources to affected communities to enhance their mapping skills and knowledge about health emergencies. This can include:
 - guidelines and tutorials: developing clear, step-by-step instructions and tutorials to support community-led mapping efforts; and
 - technical support: providing access to technical experts who can assist with mapping and data analysis.
- **Ensuring transparency and communication:** establish clear channels for communication and ensure that all stakeholders, including the most marginalized, have access to information about the mapping process and its outcomes. Examples of how to do this include:
 - regular updates: providing regular updates on the mapping process, including any changes or challenges that arise; and

- feedback mechanisms: establishing mechanisms for affected communities to provide feedback and suggestions throughout the mapping process.
- **Monitoring and evaluating the process:** regularly monitor and evaluate the effectiveness of the mapping exercise. This can be achieved through:
 - surveys and feedback: conducting surveys and gathering feedback from affected communities to assess the effectiveness of the community mapping exercise; and
 - process evaluations: conducting regular evaluations of the mapping process to identify areas for improvement and that community feedback is acted upon.



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Box 1. Adjusting approaches based on community scale

When conducting community mapping, it is crucial to tailor the approach based on the scale of the community. The size of the community – whether small, medium or large – significantly impacts the methods and tools used for effective mapping and engagement. This box outlines tailored strategies for different community sizes to ensure comprehensive and inclusive community mapping. Protection, gender and inclusion considerations must be mainstreamed throughout, ensuring that the most marginalized populations are included.

For small communities (population < 50 000) the following should be considered:

- **Direct engagement:** utilize face-to-face methods such as public hearings, town hall meetings and community leader interviews. These methods are effective in smaller settings where personal interactions can be more easily managed.
- **Local knowledge:** leverage the intimate knowledge of local leaders and residents to identify community assets, vulnerabilities and needs.
- **Participatory workshops:** conduct workshops and focus groups to gather detailed insights and foster community involvement.

For medium communities (population 50 000–500 000) the following should be considered:

- **Representative engagement:** engage with representatives of various social groups and organizations. This includes community-based organizations, local CSOs^a and informal community leaders.
- **Surveys and questionnaires:** implement surveys and questionnaires to reach a broader audience and collect quantitative data on community needs and assets.
- **Mixed methods:** combine qualitative methods (e.g. focus groups, interviews) with quantitative methods (e.g. surveys) to ensure a comprehensive understanding of the community.

For large communities (population > 500 000) the following should be considered:

- **Structured engagement:** work with established organizations and institutions that represent different segments of the population. This includes schools, hospitals, religious institutions and large NGOs.
- **Digital tools:** utilize digital tools and platforms such as social media, online surveys and mobile applications to engage with a large and diverse population.
- **Data analytics:** employ data analytics to process and analyse large volumes of data collected from various sources, ensuring that the insights are actionable and relevant.

^a CSOs: civil society organizations

Organizational examples of community mapping in health emergencies

Experience from multiple emergency responses has identified community mapping as a key intervention that emphasizes meaningful participation, trust-building, and context-specific solutions (9). However, limited resources, expertise and support, combined with challenging social, legal and policy environments, often hinder the capacity of countries to develop and implement effective community engagement strategies. The WHO Regional Office for Europe, the IFRC Regional Office for Europe and Central Asia, and the UNICEF Europe and Central Asia's Regional Office are committed to addressing these challenges to support countries in improving community engagement.

A participatory approach in community mapping involves community members in all aspects of the process, including identifying areas to be mapped, deciding on methodologies and tools, collecting and analysing data, and producing maps that reflect the community's needs and priorities. This approach ensures the final product represents diverse perspectives and experiences, and includes marginalized groups such as people with disabilities. Implementation examples of community mapping by the organizations behind the development of this toolkit are presented below.

Example 1. WHO Regional Office for Europe

Building on a decade of capacity-building in RCCE-IM and lessons learned during the COVID-19 pandemic response, the WHO Regional Office for Europe has progressed from community engagement to community empowerment as a foundation of the full emergency cycle (10). This approach involves empowering communities to co-design and co-deliver plans that affect them. The COVID-19 Solidarity Fund supported WHO's global response by strengthening the engagement of CSOs at national and local levels, ensuring direct participation of civil society throughout preparedness, readiness and response stages for stronger community resilience (11). In the WHO European Region, this CSO initiative invested in 11 CSOs within eight Member States to address community needs in the response to the COVID-19 pandemic, piloting bottom-up approaches to emergency readiness, preparedness and response.

During various crises, the WHO European Regional Office has conducted CSO mapping exercises and needs assessments. For instance, since the beginning of the war in Ukraine in 2022, the Regional Office conducted field missions to Poland and the Republic of Moldova to assess refugee health needs and guide emergency responses. These missions revealed challenges such as identifying trusted community leaders, addressing limitations in national health systems and enhancing outreach and health-

care services. In response, WHO partnered with CSOs to strengthen their ability to engage with both refugee and host communities and developed tailored RCCE-IM plans to support national governments in addressing pressing needs.

The mpox outbreak in the European Region in 2022 is an iconic example of an emergency controlled in partnership with the community. To guide the response, the WHO Regional Office for Europe and the European Centre for Disease Prevention and Control established an informal working group with civil society. Together, they developed a toolkit (12) to help event organizers and health authorities identify community groups and structures for collaboration, ensuring that public health advice resonated with – and reached – those most affected, particularly in the context of Pride events. Subsequently, the Regional Office updated the toolkit (13) based on feedback from affected communities, emphasizing the need to reach marginalized groups – including gender-diverse individuals, migrants, ethnic minorities and sex workers – and engaging representatives of other affected communities, such as the African diaspora. These insights informed the development of a targeted mpox elimination campaign.

The WHO Regional Office for Europe also conducted community mapping missions through key informant interviews and workshops for emergency preparedness in Albania and North Macedonia as well as in

Kosovo^[1], focusing on identifying relevant community actors, mapping existing structures and developing feedback mechanisms for health emergencies. These exercises fed into the development of health emergency preparedness initiatives. Additionally, participatory needs assessments were incorporated into humanitarian responses in Armenia and Israel, establishing dialogues with local civil society to improve access to mental health and psychosocial support services through the development of a RCCE-IM plan for the refugee response in Armenia and supporting religious leaders to direct people to such services in Israel. In May 2024, WHO organized the Health Security and RCCE-IM retreat in Tajikistan to gather development partners, discuss the establishment of a national RCCE-IM coordination platform, and plan an assessment to identify key community structures and systems for emergency preparedness through a 5W exercise (14) and a World Café (15),² feeding into an assessment of the overall RCCE-IM system at country-level.

These above-described initiatives demonstrate the WHO Regional Office for Europe's commitment to community empowerment and engagement in addressing various health emergencies and humanitarian crises.

^[1] All references to Kosovo in this document should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

² A 5W identifies *who is doing what, where, when and for whom* to avoid duplication and to maximize resources. A World Café facilitates structured discussion in large groups.



Example 2. The IFRC

RCRC National Societies of the IFRC maintain a direct connection with communities through their local presence, including community-based volunteers, branches and services. To ensure meaningful community participation, RCRC National Societies employ various methodologies, including feedback collection, co-production, participatory videos and specific tools to identify community-based vulnerabilities and community-based health approaches.

Such tools have been used by RCRC National Societies in emergency operations and medium- to long-term programmes. RCRC National Societies have also applied the IFRC's Enhanced Vulnerability and Capacity Assessment tool, a participatory approach that helps communities identify risks, capacities and priorities through inclusive engagement and analysis.

During the Ukraine response, community mapping and feedback systems including helplines, focus group discussions and surveys were instrumental in guiding service delivery and adapting interventions in real time. Integrating CEA into programmes improved efficiency

and accountability, with tailored multi-language communications and proactive outreach ensuring clarity on eligibility and safeguarding. Feedback channels provided live monitoring, enabling adjustments based on community input. During the COVID-19 pandemic, RCRC National Societies implemented a range of methodologies to identify perceptions, dispel rumours and myths, and address bottlenecks stemming from a lack of trust in health-care workers. RCRC National Societies collaborated with religious and cultural leaders to promote preventive measures and disseminate reliable information about vaccines. Many case studies and materials have been produced and can be consulted by practitioners and emergency responders (16).

Recognizing the importance of community trust as a fundamental aspect of community engagement and drawing on the lessons learned during the COVID-19 pandemic, the IFRC developed the Community Trust Index (17). This Index is an evidence-based tool designed to measure and cultivate trust between humanitarian organizations and the communities they serve.



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Example 3. UNICEF

Community participation is a key element in the success of programmes designed to aid Ukrainian refugees in Czechia, Poland and Slovakia. These programmes utilize a human-centred design (HCD) approach to ensure that the needs and voices of refugee communities are central to their design and implementation.

In Czechia, a youth-led HCD process was used to create the Cesty programme (18), which aims to provide young refugees with education and employment opportunities and was designed to coordinate efforts between refugee youth and both private and public sectors. The process involved:

- youth consultants – themselves refugees – who were recruited to connect with the young Ukrainian community;
- informal gatherings such as “pizza parties” were organized to foster trust and open communication, allowing young people to share their needs and ideas; and
- youth consultations and co-creation sessions were held with local partners to ensure a collaborative approach.

In Poland, a similar approach was used to create the Vocational Training Guide (19), which helps refugee adolescents navigate the Polish education system. The process included:

- rapid HCD research involving site visits and consultations with service providers;
- qualitative assessments through online interviews with adolescents to understand their educational needs;
- a feedback-driven design with adolescents and caregivers involved in creating the Guide; and
- pre-testing with adolescents and caregivers to gather feedback.

In Slovakia, community participation was used to foster social cohesion between Ukrainian refugees and the host community. This involved:

- the co-creation of content with Ukrainian community representatives and local partners;
- the training of Ukrainian youth journalists and bloggers to produce culturally relevant content;

- partnerships with local initiatives like the Metropolitan Institute of Bratislava’s “City for Kids” project (20), which used an HCD approach to enhance learning environments and promote social inclusion;
- empowering young people to co-design inclusive spaces through empathy walks and co-design workshops; and
- community outreach through events like “play streets” (21), which provided opportunities for community feedback.

In all three countries, engaging local partners and community representatives was crucial for the success of these programmes; ensuring that they were culturally appropriate, relevant and sustainable. By including the voices of refugees in the design process,

these programmes were more likely to meet their needs and foster a sense of belonging. The programmes in the three countries also emphasized the importance of using data and research to inform their strategies and continuously improve their effectiveness. For example, in Poland, feedback from users was used to refine the Vocational Training Guide; in Slovakia, UNICEF used social discourse analysis to identify key stakeholders and areas for intervention.

By involving the community, programmes like these can more effectively address the complex needs of refugee populations and promote social cohesion. The community-led approach helps to make sure that programmes are not only relevant but also create a sense of ownership and empowerment among the people they are designed to serve.



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Community mapping in the emergency life cycle

Community mapping is vital across the emergency life cycle (Fig. 1; Box 2):³ by understanding and involving local populations, it promotes efficient resource allocation, fosters coordination and enhances long-term resilience.

- In the **preparedness phase**, community mapping helps identify hazard-prone areas, vulnerable communities, key infrastructure and essential services, strengthening early warning systems and disaster risk reduction efforts.
- Community mapping during the **readiness phase** helps emergency responders and communities prepare for a specific, imminent hazard by identifying gaps and vulnerabilities.
- In the **response phase**, community mapping enables

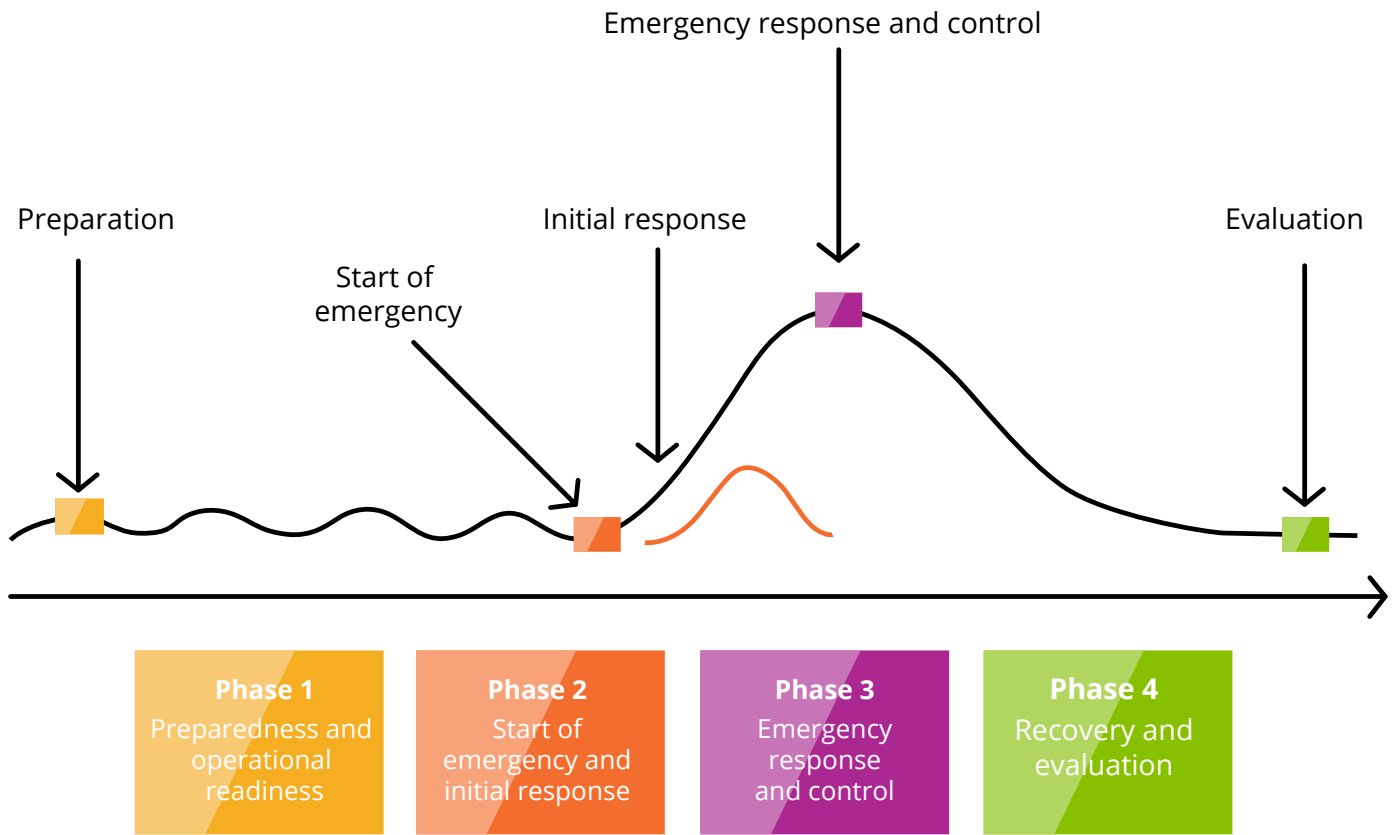
emergency teams to rapidly adapt to changing conditions by leveraging local knowledge, identifying community priorities and coordinating interventions that are informed by real-time feedback and trusted community structures.

- During **recovery**, community mapping supports rebuilding by visualizing damage, prioritizing needs and ensuring inclusive, community-led decision-making. It also contributes to psychosocial recovery by identifying informal support networks, safe spaces for children and youth, and community-led initiatives.

As similar approaches can be used across the life cycle of an emergency, Table 1 explains what participatory methods can be employed at each stage of the emergency cycle.

³ The WHO emergency cycle refers to the four standard stages of emergency management: prevention, preparedness, response and recovery. In this publication, the term emergency life cycle is used to operationalize community mapping across these phases. Stages refer to pre-mapping, mapping and post-mapping – to reflect the practical steps involved in engaging communities before, during and after emergencies.

Fig. 1. The emergency life cycle



Source: (22)



Box 2. Community mapping during the emergency life cycle

The stage of the emergency within the emergency cycle will fine-tune and focus the mapping exercise.

Preparedness phase

Community mapping in the preparedness phase supports whole-of-government and whole-of-society planning by identifying community vulnerabilities, capacities, needs and existing resources. It enables the allocation of sustainable human and financial resources and helps establish early relationships with key stakeholders. For example, mapping can identify local clinics, shelters and influential community members who can lead participation during emergencies, and identify who the most marginalized groups are and where they are located. Mapping is also essential to understand the capacities and needs of marginalized groups, including their access to services, participation in decision-making and representation in existing platforms. Mapping trusted sources of information, preferred communication channels and ongoing community initiatives ensures that preparedness efforts are inclusive and context-specific. Participatory methods such as needs assessments and community dialogues can help identify at-risk populations, infrastructure and services, while also informing the development of preparedness and response plans. Mapping evacuation routes, safe zones and critical infrastructure further strengthens emergency planning. Investing in community mapping during preparedness lays the foundation for faster, more targeted and more equitable emergency response.

Readiness phase

Community mapping during the readiness phase helps identify systems and structures already in place for recurring hazards as well as the communities vulnerable to those specific hazards. Through participatory methods – such as asset-mapping workshops, stakeholder consultations and scenario-based planning – communities and authorities can jointly assess local resources, capacities and vulnerabilities to ensure rapid and targeted action for a specific, imminent health threat. This process enables health and other relevant sectors to work collaboratively with communities to co-design contingency plans tailored to specific health risks. By involving community actors early, readiness efforts become more context-specific, inclusive and operationally feasible when emergencies strike and build trust in public institutions.

Box 2. (Contd.)

Response phase

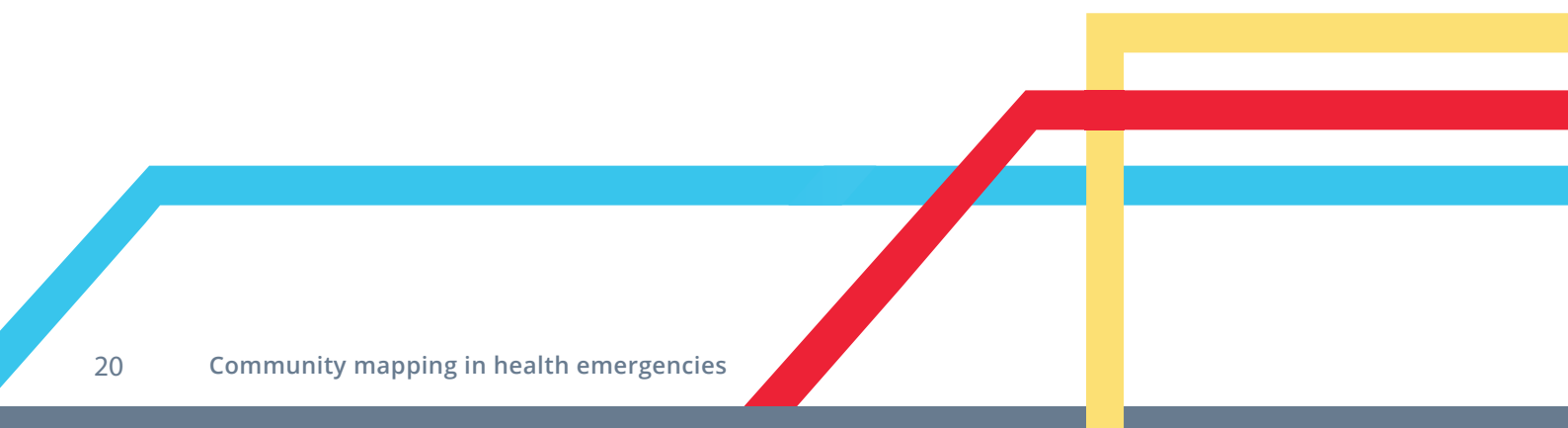
At the core of an effective emergency response lies the co-design and co-delivery of interventions, leveraging community assets and skills to tailor the response to the needs of communities. Community mapping can identify community influencers and perceptions, beliefs and practices that can impact the response, as well as community priorities for the response, and strengthen the response team's understanding of the community. Using results from the community mapping exercise, responders can better target their interventions and leverage local resources and assets to surge capacity leading to a more efficient response. Furthermore, community mapping can help in tracking the spread of diseases, identifying hotspots and guiding the allocation of medical resources and personnel during outbreaks. It can also assist in coordinating multi-agency responses by providing a common operational picture.

Recovery phase

Community mapping during the recovery phase can inform initiatives that support the reintegration of individuals and communities affected by a health emergency, the sustainment of protective and preventive measures, and guide targeted support to these groups, ensuring their inclusion in recovery planning and access to services. For instance, relevant authorities and community influencers identified during a mapping exercise can co-create and co-deliver recovery plans and build community resilience for the future. In a conflict situation, community mapping can identify safe zones/spaces, local leaders, informal support networks, and community-led initiatives and organizations that can provide psychological support and basic needs. Community mapping assists in identifying assets and capacities, establishing effective communication channels and ensuring that recovery efforts are tailored to the specific requirements of the community. It can also help in assessing the long-term health impacts of a health emergency, identifying areas for health system strengthening, and guiding the implementation of community-based health programmes to address ongoing health needs and social and economic impacts.

Table 1. Participatory methods across the emergency life cycle

Emergency cycle phase	Participatory method
Preparedness phase	Use community dialogues, focus group discussions, and community-drawn maps to identify at-risk and vulnerable groups, services and infrastructure. Include storytelling and oral histories to capture local knowledge and perceptions. Co-develop preparedness plans and evacuation routes with communities. Identify community influencer/ <i>informal structures</i> to understand beliefs, priorities and how information is shared within the community.
Readiness phase	Conduct asset-mapping workshops, scenario-based planning and stakeholder consultations to identify gaps and existing systems for an imminent threat or a reoccurring hazard. Use focus group discussions, to validate findings and co-design contingency plans with community actors.
Response phase	Adapt pre-existing maps with new community input. Use rapid assessments and informal interviews. Leverage knowledge of community influencer/ <i>informal structures</i> to co-design and co-lead emergency response interventions.
Recovery phase	Facilitate community dialogues, focus group discussions and service mapping to co-create recovery plans. Use storytelling to understand long-term needs and identify safe zones, existing coping mechanisms and psychosocial resources.







Step-by-step guide to community mapping

Community mapping is an essential and indispensable part of the initial situation assessment across the emergency life cycle. Community mapping can be initiated in parallel with other situation assessments such as vulnerability, rapid needs and health assessments – particularly when such assessments represent the only opportunity to incorporate community mapping.

Community engagement is an essential principle of community mapping. Without engaging relevant stakeholders, mapping results will not reflect the structure, dynamics and dependencies of the community. In contexts with limited time, staff or resources – especially during the response phase – teams set up to carry out community mapping should prioritize the **four essential community mapping steps** outlined in the core community mapping section below.

Community members should always be engaged in co-designing each community mapping step and interactive methods such as group discussions and participatory exercises should be utilized to ensure the community mapping process is genuinely participatory. Rather than merely extracting data place communities at the centre of knowledge sharing and decision-making. Local facilitators can be employed to foster trust and create safe, inclusive spaces for open dialogue. Once information is collected, findings should be validated together with the community, collaboratively identifying priorities and next steps. This inclusive approach transforms mapping into a shared, empowering process. Box 3 explains how community insights can be collected in an ethical way.



Tip: Community participation should begin in the planning phase, not only during data collection. Even in remote or desk-based pre-mapping, community actors can be involved in defining objectives, identifying priority groups and validating secondary data (existing information from reports, assessments or databases that help understand the community before new data is collected).

Box 3. Upholding standards for ethical, inclusive and protective community mapping

All phases of community mapping – from planning to data analysis and sharing – should be inclusive and guided by relevant principles (e.g. do no harm) and frameworks to ensure the process remains ethical, participatory and protective throughout. It is also important to recognize that the type and stage of the emergency will shape the focus of the mapping.

For example, if the mapping targets sexual exploitation and abuse as part of a *protection from sexual exploitation and abuse* programme

- stakeholders beyond formal leaders – such as elder women, traditional birth attendants and adolescents – should be included, as relevant participants may vary depending on the issue;
- mapping should aim to identify community-based mechanisms for addressing sexual exploitation and abuse and supporting survivors, but collecting this information during the acute stage of an emergency – when the priority is on lifesaving – may not be ideal; and
- dedicated resources through surge capacity can be allocated to the task of mapping sexual exploitation and abuse and survivor support mechanisms, or information can be collected during the preparedness phase.

Establishing and implementing a community mapping process – particularly in the most marginalized or at-risk communities and areas susceptible to specific hazards – should be included in the emergency preparedness phase. Additionally,

it is important to regularly update community mapping findings. Having updated insights from community mapping can significantly accelerate the provision of an adequate and timely emergency response.



Tip: The mapping priorities can change in the emergency cycle. Before an emergency, community mapping focuses on preparedness. It identifies key stakeholders, resources, infrastructure, vulnerable groups and safe areas to strengthen planning and coordination. During the emergency response, it captures real-time needs to guide rapid, targeted action. It also helps adapt pre-existing mapping exercises to reflect changing conditions.

This toolkit offers two scalable approaches to participatory community mapping for emergency preparedness and response: core mapping and a full-scale mapping. Each is expanded on in the subsequent sections. Practitioners can choose the approach based on available resources, time and the stage of the emergency, ensuring flexibility and relevance across diverse contexts.

- The **core mapping approach** consists of four essential steps designed for use in time-sensitive or resource-constrained settings, such as during the early stages of an emergency. These steps prioritize rapid insights and can be conducted independently or be integrated into other assessments.

- The **full-scale community mapping approach** is most appropriate during the preparedness phase, when time and resources allow for deeper engagement and comprehensive data collection. However, it can also be applied during response – particularly in protracted or complex emergencies – when a more nuanced understanding of community dynamics is needed to adapt interventions.

This core mapping and full-scale community mapping are organized across three stages (pre-mapping, mapping and post-mapping). The pre-mapping encompasses early engagement, planning and secondary data review; mapping – the in-depth participatory fieldwork; and post-mapping – the analysis, validation and integration into the response.



Core community mapping

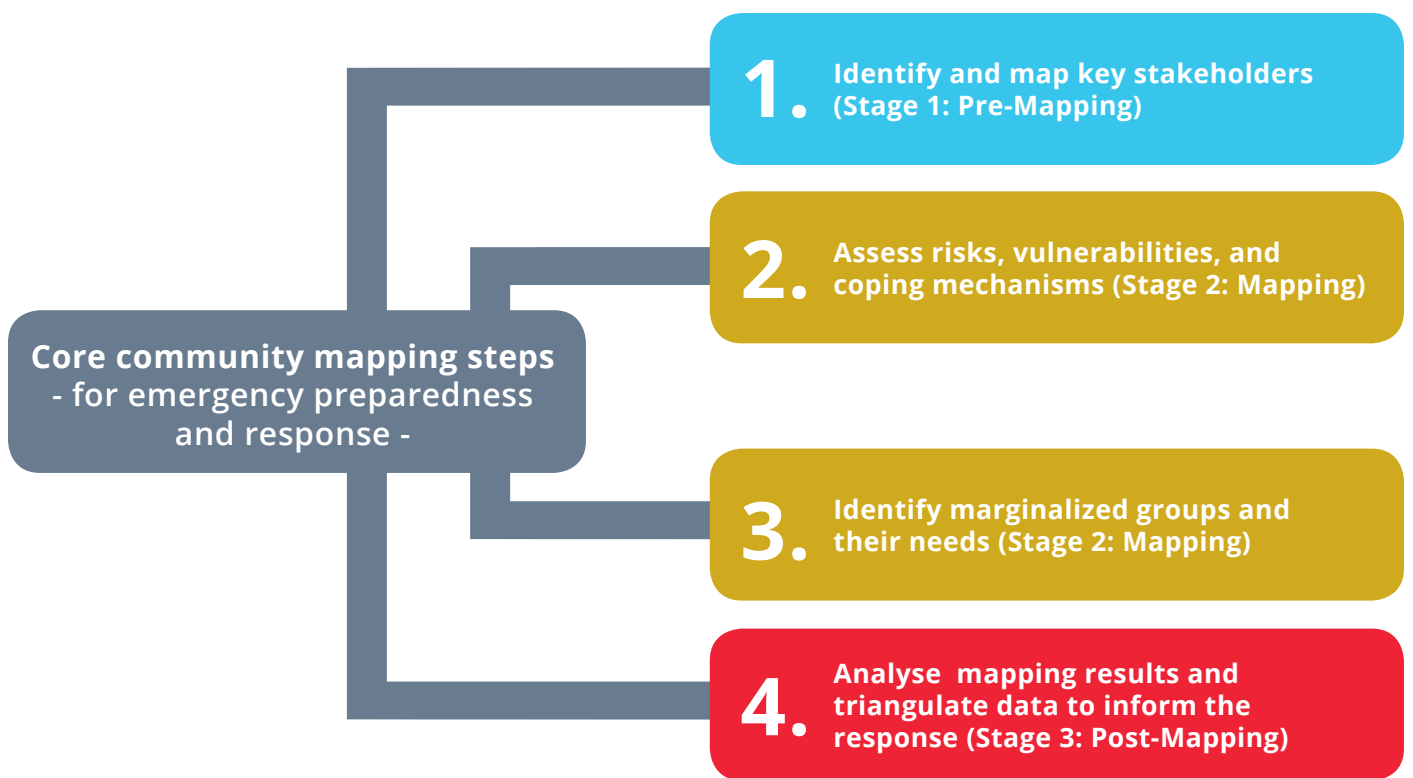
In both preparedness and response phases, community mapping should prioritize four essential steps that generate critical insights for planning, coordination and rapid decision-making. These steps provide a practical foundation for collecting and evaluating community data, allowing plans to be continuously refined in line with real-time insights and evolving needs.

These four essential steps are especially useful when time, staff or funding are limited, such as during the early stages of an emergency or in low-resource settings. They

are adaptable across contexts and scalable to available capacity, ensuring that critical information is still collected to guide effective interventions. Where resources permit, these steps can be expanded into a more comprehensive framework within the full-scale mapping exercise (as presented below), incorporating deeper participatory methods, broader stakeholder engagement, and stronger data collection and analysis.

The core community mapping approach is illustrated in Fig. 2 and Table 2.

Fig. 2. The core community mapping approach



Source: Authors

Table 2. Core community mapping: the four steps

Step	Purpose	Expected output	Potential tools
1. Identify and map key community stakeholders and civil society actors	To understand the local ecosystem of influence and support by identifying formal and informal leaders, gatekeepers and trusted community actors. This step is also important in response – even if the target audience is already defined – identifying how community stakeholders help determine how to engage the target audience effectively.	A stakeholder matrix listing key individuals and organizations, including their roles, spheres of influence and contact information.	Stakeholder Matrix; Independent questionnaire for community mapping and asset identification (see Annex 2)
2. Assess community risks, vulnerabilities and existing coping mechanisms	To capture the community's exposure to hazards, their perceived risks and the strategies they already use to cope with emergencies.	Prioritized list of risks and vulnerabilities, along with a mapping of community-based coping structures and mechanisms.	Enhanced Vulnerability and Capacity Assessment tool (23)
3. Identify the most marginalized groups and assess their specific needs	To ensure the mapping process is inclusive and responsive to those most at risk, including underserved and marginalized populations.	Profile of marginalized groups, including their locations, specific needs, and preferred communication and support channels.	Key informant interview guide; Profiles of community members (see Annex 2)
4. Analyse mapping results and triangulate data to inform the response	To complement primary data collection with existing information (e.g. demographics, health, communication preferences, social/ gender dynamics and existing services).	Consolidated overview of key findings (e.g. summary table, spreadsheet or visual map).	5W mapping exercise (14); World Café (15) (see Annex 2)



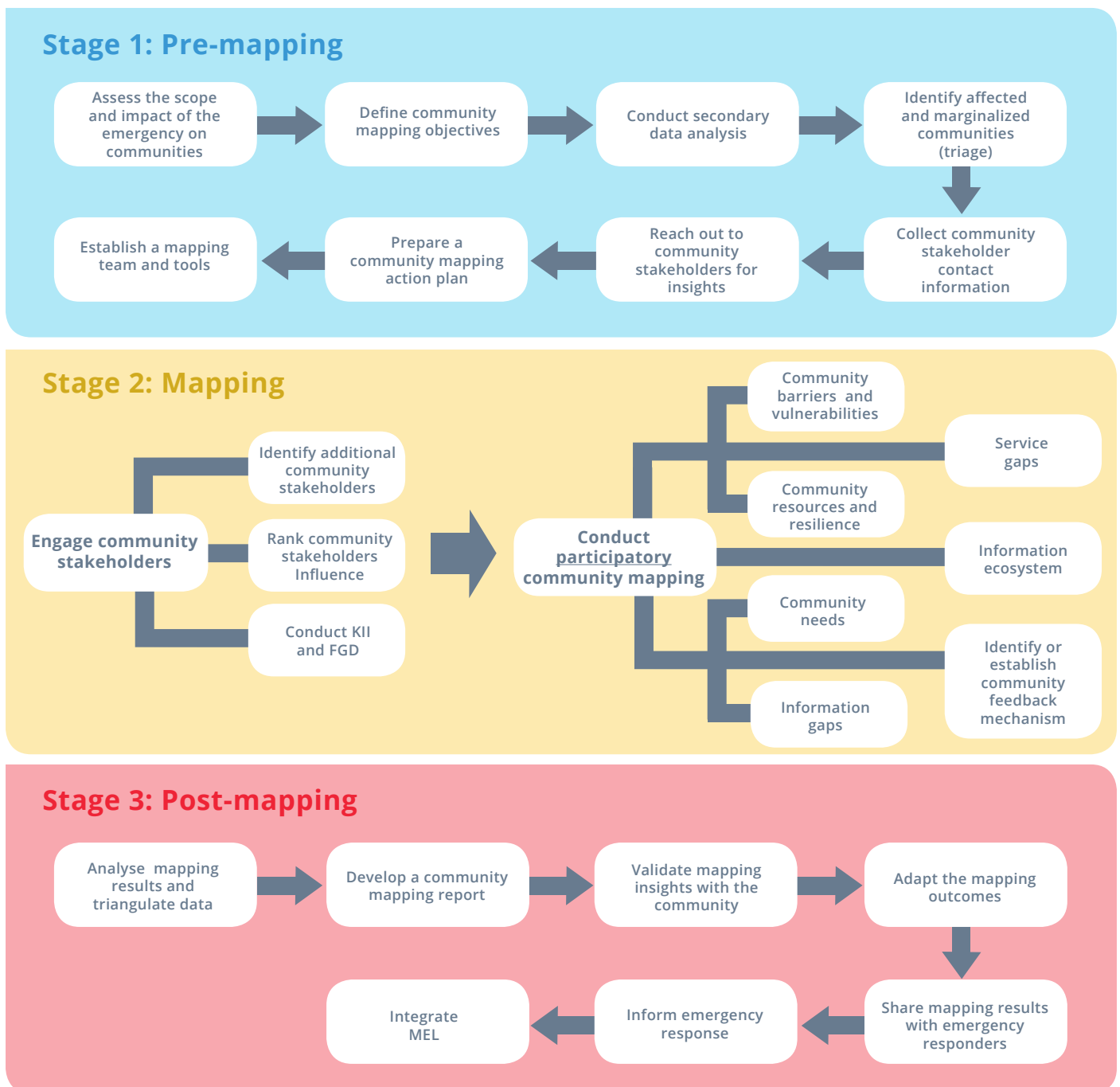
Tip: Resource needs vary by context. Explore the possibility for surge capacity in an emergency response and ensure that adequate resources are allocated for preparedness activities. A minimum would be one person with social science expertise (e.g. anthropology, sociology) to guide analysis. Data collection can be done by public health profiles, social workers or trained community actors or volunteers.

Full-scale community mapping

The process for undertaking a comprehensive full-scale mapping exercise is visualized in Fig. 3, with each stage expanded on below. The tools

relevant to each stage can be found in the next section: Community mapping tools and resources.

Fig. 3. The full-scale community mapping process



Source: Authors

Overview of the pre-mapping steps

Stage 1: pre-mapping steps (office/remote)

This stage establishes the foundation for the entire mapping process. Its purpose is to set clear objectives, understand the context and organize resources before engaging communities directly. In the first stage of a full-scale community mapping, the mapping team will need to:

- assess the scope and impact of the emergency (if responding to an active emergency) or estimate the likely impact of different type of emergencies (if preparing in advance);
- define the objectives of the community mapping exercise, in particular which community groups are most marginalized or at-risk and should be prioritized;
- analyse available secondary data to understand what gaps in understanding of community dynamics and structure there is;
- work with emergency responders to identify key community stakeholders (e.g. leaders, influencers, gatekeepers), contact them remotely, and with their help, start collecting the essential mapping information from the affected communities;
- understand who among these key community stakeholders has influence to prioritize outreach;
- engage community stakeholders to gather insights needed for the mapping exercise;
- carefully plan the next steps in community mapping, including the resources needed, timeline, role and risk mitigation strategies; and
- establish the mapping team and select relevant qualitative and quantitative mapping tools.

Note: In emergency response contexts, this stage may be conducted rapidly and in parallel with other assessments, especially when prior preparedness mapping was not conducted.

Assess the scope and impact of the emergency on communities

Objective: define the type, severity and size of the emergency, and identify the current emergency response actors and activities to fine tune the mapping exercise. During preparedness, assess recurring risks and potential hazards to guide future mapping.

Approach: engage early with relevant sectors or pillars of the incident management support team to understand their planned actions and information needs. Use this input to tailor the mapping exercise, developing fit-for-purpose questions that connect emergency response with community capacities and priorities. This initial coordination ensures the data collected is actionable and facilitates its uptake by responders who are anticipating specific insights.

Guiding questions:

- what is the type of emergency?
- what is the severity and impact of the emergency?
- what is the size of the emergency (area and populations affected)?
- what is the current emergency response? Who is responding (type of responders)? which affected areas and communities are the primary focus of the emergency response team?
- who is coordinating the response?
- are any emergency responders already involved in community mapping?

Define community mapping objectives

Objective: clearly state the main objectives of the mapping exercise and how the results will inform and strengthen the emergency response. This ensures the mapping is purposeful and aligned with real-time decision-making needs.

Approach: identify key coordination platforms where community feedback can be used to adapt the response and address specific local needs. These might be the country Health Cluster, the health sector, an accountability to affected populations working group (24), a RCCE-IM coordination mechanism, RCRC National Societies (through their branches and community volunteers), or national emergency response coordination mechanisms.

Guiding questions:

- what are the main objectives of the community mapping (e.g. identify marginalized or at-risk populations, health service gaps, community influencers)?
- what information is needed and where/from whom can this information be collected from?
- how will community mapping impact the emergency response?
- how will the results of the community mapping (e.g. community insights, capacities, resources, resilience) feed into the response or preparedness planning?

Conduct secondary data analysis

Objective: review demographic, health, sociocultural, economic, environmental, communication and community data to build a well-rounded understanding of the context. This analysis helps tailor the mapping to the specific characteristics and needs of the affected population.

Approach: collaborate with government agencies, humanitarian actors and community leaders to identify existing mapping efforts, reports, data sources and trusted relationships that can inform and strengthen the analysis.

Guiding questions:

- demography:
 - what is the total number of inhabitants in the affected area?
 - how is the population distributed by age and sex?
 - what are the common family structures?
- health situation:
 - what are the main health indicators (e.g. morbidity, mortality, malnutrition, birth rate)?
 - how is the health system organized and funded, including informal or traditional systems?
 - what health policies are currently in place?
 - what health services are available and how accessible are they?
 - what are the hygiene and sanitation conditions?
 - what are the prevalent health-seeking behaviours?
- sociocultural
 - what ethnic groups, languages and religious/spiritual practices are present?
 - how is the community socially organized?
 - what are the dominant social norms and cultural practices?
 - what is the level of education and literacy?
 - how do communities represent and understand health?
 - what types of housing and lifestyles are common?

- socioeconomic/political:
 - what are the main sources of livelihood and the employment conditions?
 - what is the cost of basic goods and services (e.g. food, construction materials, non-food items)?
 - what governance structures exist at local and national levels?
 - what is the political landscape and are there any relevant historical events?
 - are there human rights concerns or socioeconomic inequalities?
- communication:
 - what traditional communication channels and mass media are used (e.g. television, radio, print)?
 - what digital platforms and messaging applications are most used?
 - what informal communication spaces exist (e.g. religious institutions, markets)?
- environmental:
 - what are the geographic and climatic characteristics of the area?
 - what natural hazards are present?
 - what natural resources exist and how accessible are they?
 - what is the status of food security and access to safe drinking water?
 - what is the urban/rural distribution and transportation infrastructure?
 - are there land-disrupting or polluting infrastructures (e.g. industrial zones, waste sites)?
- community actors:
 - which actors influence health and emergency response (ministries of health, international relief organizations, national emergency response organizations, local CSOs)?
 - what roles do these actors play in the community?
- community structure and identity:
 - how do communities articulate and communicate their spatial knowledge?
 - what assets, capacities, and local knowledge exist?
 - how are land and resources managed?
 - what internal conflicts or social networks shape community dynamics?
 - who are the key people (including informal leaders) and how do they interact with outsiders?

Identify affected and marginalized communities

Objective: identify the communities most affected by the emergency and prioritize those facing the greatest barriers, such as marginalized or underserved groups. This triage process ensures that the mapping focuses on those with the highest needs and the least access to services.

Approach: ensure inclusive analysis by collecting and using sex-, age- and disability-disaggregated data. When working with local partners, build their capacity to gather and interpret this data and promote gender balance and diversity throughout the process. Examine what data may be missing or unavailable; gaps in data can indicate where underserved or hard-to-reach groups may be located and highlight barriers to inclusion.

Guiding questions:

- which communities (and/or community groups) are the most affected?
- which are the most marginalized or at-risk groups within the affected communities?
- what are the main vulnerabilities?
- what will be the community mapping prioritization criteria?
- which data do you need to start prioritizing groups/communities?
- what data is missing or unavailable and what does this suggest about the location or visibility of underserved or marginalized groups?

Collect community stakeholder contact information

Objective: identify key community stakeholders – such as leaders, influencers and gatekeepers – and collect their contact details. Understanding who holds influence within the community is essential for effective engagement and coordination.

Approach: organize stakeholders by their level of authority, influence and relevance to the emergency response. This helps prioritize outreach and build strategic partnerships.

Guiding questions:

- who are the main community stakeholders and who are the key people with relevant roles related to the emergency in the community?
- how many community and religious leaders are in the communities and which communities do they cover?
- who are the key people, gate keepers, influencers and information spreaders?
- how would you rank the existing community stakeholders (e.g. by authority, influence, information reach)?
- do you have contacts of the community stakeholders (e.g. phone/WhatsApp number, physical address) and how can you get their contact information if not?

Reach out to community stakeholders for insights

Objective: contact identified key community stakeholders, including leaders, influencers and gatekeepers to collect relevant information on community structures, assets, communication channels, trusted sources of information, perceived risks and existing coping mechanisms.

Approach: identify entry points for health emergency response for engaging CSOs focused on, for example, livelihoods, environment protection and agricultural growth. Look for possible contacts of community representatives, community-based organizations, and religious and education organizations who may have worked with your organization outside of an emergency.

Guiding questions:

- how will you define priority community stakeholders and what will be your criteria?
- which is the priority group of stakeholders to reach out first (what is the most urgent to prioritize)?
- what communication channels and tools (e.g. television, radio, social media, door-to-door campaigns) do stakeholders perceive as most effective for reaching different community groups?
- which sources are considered most trusted by the community, and why?
- how will you present the mapping exercise to the selected community stakeholders?
- which preliminary information you will acquire?
- which secondary data will you triangulate with the stakeholders?
- how will you triangulate the collected data?

Prepare a community mapping action plan

Objective: develop a clear plan for the mapping exercise, outlining the tools, resources, timeline, role, and risk mitigation strategies. A well-structured plan ensures the process is efficient, coordinated and adaptable to changing conditions.

Approach: embed the mapping into existing activities – such as risk assessments, field visits or coordination meetings – to save time, reduce duplication and enhance relevance.

Guiding questions:

- which tools and resources are essential for the mapping exercise? Which are suitable for remote online mapping and which are suitable for field mapping?
- what is the timeline of the mapping exercise?
- how will you mitigate potential risks (e.g. protection, safety, security, inclusion, operations) while doing the community mapping?

Establish a mapping team and tools

Objective: choose appropriate tools for data collection, analysis and visualization, and assemble a diverse team with relevant skills and local knowledge. A well-equipped and inclusive team is key to effective and ethical mapping.

Approach: involve volunteers – especially from affected communities – for local insight and trust-building. Consider additional capacity available during emergencies, such as individuals with health promotion, social work or community engagement backgrounds.

Guiding questions:

- which community mapping tools are the most relevant for your exercise?
- do you already have all the tools and where will you acquire the missing ones?
- do you know how to use the mapping tools and if not where can you receive instruction on how to use the tools?
- who can provide technical support for using the tools?
- what will be the structure of your community mapping team (e.g. size, experience, languages, ethnicity, religion)?
- which team members and resources will be required for the mapping exercise (e.g., social scientists for analysis, public health professionals, social workers, or trained community volunteers for data collection)?
- how quickly can you deploy the team?

Overview of the mapping steps

Stage 2: mapping steps (field/in person)

In the second stage of the community mapping process, the first step is to engage the affected communities. The goal is to collect relevant community feedback collected with the help of the pre-identified key community stakeholders and the gathered data from the pre-mapping stage through key informant interviews and focus groups to:

- identify additional stakeholders
- rank community influence.

The next step is to conduct participatory community mapping to identify:

- community barriers and vulnerabilities, namely:
 - key obstacles affecting access to services and information;
 - factors increasing risk for marginalized or at-risk groups;

- community needs, particularly:
 - priority health, social and protection needs;
 - emerging concerns raised through community feedback;
- community resources and resilience, with a focus on:
 - existing coping strategies and local responses; and
 - available assets (e.g. trusted communication channels and feedback systems)

This can be done using relevant qualitative and quantitative assessment tools to identify relevant sources of information about the affected communities and marginalized or at-risk groups and triangulating secondary analysed data with community feedback.

It must be ensured that community mapping is a participatory process – gathering the relevant information with the communities, for the communities.

Engage community stakeholders

Objective: plan and schedule in-person visits to affected communities and set up online meetings with key stakeholders. These interactions are essential for building trust, gathering insights and ensuring that diverse voices are included in the mapping process. Tailor the format and timing to the availability and preferences of participants to maximize engagement.

Approach: involve community members in co-designing the process and use interactive tools like group discussions. Facilitate the process with communities rather than just collecting data about them. Use local facilitators to build trust and create inclusive spaces for sharing.

Guiding questions:

- which community stakeholders will you speak to first?
- who is responsible for drafting the community visit schedule?
- can you organize online meetings with key community stakeholders?
- which community mapping tools will you use and will you co-design the mapping tools or adapt existing tools to specific communities?
- which methods will you use to rank the community stakeholders' influence?
- do you have key informant interview and focus groups tools for community mapping available and how will you assure a participatory approach?
- which community feedback mechanism will you establish for future feedback?

Conduct participatory community mapping

Objective: engage directly with community members to understand their lived experiences and expectations. Collect feedback on the barriers they face, their vulnerabilities, priority needs and the resources they already have.

Approach: use a mix of qualitative and quantitative tools to ensure diverse voices are heard and that the data reflects the full picture of the community's situation.

Guiding questions:

- what is the current community response and how does it align with the needs, priorities and capacities of the affected populations?
- is the response sufficient to meet urgent needs, appropriate in terms of cultural and contextual relevance, and relevant to the specific challenges faced by different groups?
- which community resources and assets are readily available to respond to the emergency?
- how will you assess community emergency resilience?
- who are the main community stakeholders already engaged in the emergency response (or preparedness) and what are their exact roles and the range of activities?
- what are the main barriers reported and which communities are impacted by these barriers?
- how do you define the main vulnerabilities of the communities affected by the emergency?
- what languages are spoken in the community, and are there linguistic minorities who may be excluded from mainstream communication or services?

- where might these linguistic minorities be located and how can their inclusion be ensured?
- what are the main community needs and in which geographical areas and among which communities were these needs detected?
- have you prioritized community needs together with community stakeholders?
- how will you assess the information gaps among affected communities and which information gaps have you detected among community stakeholders?
- which essential services are impacted by the emergency and which community structures were supported by these services?
- how do community stakeholders prioritize the needed services?
- which communication channels and tools are being used by community members (and specific groups, as relevant) and which are the preferred ones?
- how have these communication channels/tools been affected by the emergency and which are currently functioning and can reach most of the affected area?
- what is the literacy rate of the community?
- which topics are considered sensitive or culturally delicate for the community?
- are there existing community feedback mechanisms in place?
- what are the feedback mechanisms and tools community members would prefer to use to provide feedback and submit complaints?
- who will be responsible for implementation and follow-up of the mapping exercise?

Overview of post-mapping steps

Stage 3: post-mapping steps (remote and in-person)

The third stage of community mapping entails going from insights to action:

- analyse the mapping data collected in the field;
- develop a community mapping report with key priorities for the emergency response identified;
- validate the results with key community stakeholders;
- improve the mapping exercise based on community feedback;
- Share the results with emergency responders for planning and coordination;
- ensure the emergency response addresses current community needs, and service and information gaps; and
- evaluate the participatory community mapping approaches, activities and tools to adapted them accordingly.

Analyse mapping results and triangulate data

Objective: systematically analyse the collected data and cross-check it with information from local authorities, partners and other sources. Triangulating data helps validate findings, fill gaps and ensure accuracy.

Approach: use community feedback to refine your analysis and identify missing or conflicting information. This helps ensure the mapping reflects the real needs and perspectives of affected populations.

Guiding questions:

- which methods will you use to analyse the gathered data?
- how will you encode/analyse your data?
- how will you triangulate participatory community mapping data with local, regional and national authorities?
- how will you adapt your result interpretation and analysis according to community feedback?
- which relevant data is still missing and how will you acquire this data?

Develop a community mapping report

Objective: develop a clear and comprehensive report that summarizes the mapping process, key findings, identified needs and recommendations. The report should be accessible to both technical and non-technical audiences and serve as a tool for planning, coordination and advocacy. To enhance accessibility and usability reports can include alternative, less text-heavy dissemination formats such as visual maps, infographics, tables and data visualizations, which allow for quicker digestion and operational use.

Approach: treat report writing as a collaborative effort. Involve emergency response teams, social scientists and behaviour change experts to ensure the content is accurate, relevant and reflects diverse perspectives.

Guiding questions:

- with whom will you consult while writing the report?
- will you use simplified, easy to understand language for the report to be accessible to different communities?
- how will you structure the report dissemination plan?

Validate mapping insights with the community

Objective: present the mapping results to community stakeholders and discuss key priorities for the emergency response. This step helps validate the findings, ensures transparency and strengthens trust and collaboration.

Approach: make the results accessible in formats communities can understand. Return to the community to confirm the findings, gather feedback and jointly agree on priorities and next steps. This reinforces shared ownership of the mapping process.

Guiding questions:

- how will you share the mapping results with the community stakeholders and which mechanisms/platforms/tools will you use?
- how will you assure the result are accessible to the communities?
- how will you assure the existing community emergency response will be an integral part of overall emergency response?

Adapt mapping outcomes

Objective: use feedback from stakeholders to revisit and improve the mapping process. This may mean refining your methods, updating data or even redoing parts of the mapping exercise. Treat community mapping as a living process that evolves with new insights and changing needs.

Approach: think of mapping as a cycle, not a one-time task. Regularly review and refresh your maps to keep them relevant, accurate and useful for decision-making.

Guiding questions:

- do you need to re-evaluate the community mapping results after discussing them with the community stakeholders?
- do you need to redo the community mapping exercise, or collect additional insights?
- do you need to reassess the mapping priorities?

Share mapping results with the emergency responders

Objective: promptly share community mapping results with the emergency response team to inform planning and coordination. Ensure the geographic information system unit (if you have one) receives the data so it can be visualized and integrated with other assessments – such as vulnerability, protection and needs data – for a comprehensive overview of the situation.

Approach: include clear, actionable recommendations in your report to help responders integrate mapping insights into the overall response strategy and prioritize interventions effectively.

Guiding questions:

- with whom will you share the community mapping outcomes and how will you present the community mapping data?
- how will you assure the results of the community mapping will be integrated in the emergency response?
- when is a community insights report needed?
- how will you share the results with emergency responders, and which priorities will you emphasize and why?

Inform emergency response

Objective: use the insights from your community mapping to shape your emergency response plan. Focus on the specific needs, gaps and priorities identified through the mapping. This step ensures that your response is grounded in real community data and is responsive to what matters most to people on the ground.

Approach: let the mapping guide your actions. Start with the most urgent needs and the most marginalized communities. As new information emerges, be ready to adjust your plans; emergency response is dynamic, and your strategy should be too.

Guiding questions:

- which mapping results will you integrate in your emergency response?
- which communities will you target first?
- which service and information gaps will you target first?

Integrate Monitoring, Evaluation and Learning

Objective: use feedback from stakeholders to revisit and improve the mapping process. MEL helps you track progress, assess the effectiveness of your mapping activities and learn from the process. Use both quantitative indicators (e.g. the number of stakeholders engaged, training sessions held) and qualitative insights (e.g. community feedback, stakeholder satisfaction) to understand what's working and what needs adjustment.

Approach: treat MEL as a learning tool – not just a reporting requirement. Use it to reflect, adapt and strengthen your approach over time. Involve communities and stakeholders in the evaluation process to ensure it is inclusive and grounded in real experiences.

Guiding questions:

- how will you monitor and evaluate the mapping exercise?
- who will be responsible for this process?
- what tools and methods will be used to collect monitoring data (e.g. surveys, interviews, observation)?
- what indicators will be tracked, and how frequently will data be collected?
- how will you ensure data quality, accuracy and completeness?

Community mapping tools and resources

Table 3 presents an overview of the tools available to carry out core or full-scale community mapping that have been developed by WHO, the IFRC or UNICEF. The mapping stage in which each tool can be used is

provided within the table. The tools are either available in Annex 2 of this current document or are publicly available online, as indicated within the reference column of the table.

Table 3. Community mapping tools

Community mapping stages	Community mapping tool	Source	Reference
Stage 1: Pre-mapping and Stage 2: Mapping	Stakeholder matrix	WHO	See Annex 2
Stage 1: Pre-mapping and Stage 2: Mapping	Profiles of community members	WHO	See Annex 2
Stage 1: Pre-mapping and Stage 2: Mapping	Online questionnaire	WHO	See Annex 2
Stage 1: Pre-mapping and Stage 2: Mapping	Key informant interview guide	WHO	See Annex 2
Stage 1: Pre-mapping and Stage 2: Mapping	Focus group guides	IFRC	(25)
		UNICEF	(26)
Stage 1: Pre-mapping and Stage 2: Mapping	Survey	WHO	See Annex 2
Stage 1: Pre-mapping and Stage 2: Mapping	Independent questionnaire for community mapping and asset identification	WHO	See Annex 2

Table 3. (Contd.)

Community mapping stages	Community mapping tool	Source	Reference
Stage 1: Pre-mapping and Stage 2: Mapping	Organigraph method tool	WHO	(27)
Stage 1: Pre-mapping and Stage 2: Mapping	Health Resources and Services Availability Monitoring System tool	WHO	(28)
Stage 2: Mapping	5W mapping exercise and World Café	WHO	(14,15); see Annex 2
Stage 2: Mapping and Stage 3: Post-mapping	CEA self-assessment and planning workshop	IFRC	(29)
Stage 2: Mapping and Stage 3: Post-mapping	Enhanced Vulnerability and Capacity Assessment tool	IFRC	(23)
Stage 2: Mapping and Stage 3: Post-mapping	Community assessment tool	IFRC	(30)
Stage 2: Mapping and Stage 3: Post-mapping	Minimum Quality Standards and Indicators for Community Engagement	UNICEF	(31)
Stage 2: Mapping and Stage 3: Post-mapping	Community dialogue	WHO	See Annex 2
Stage 3: Post-mapping	Logical framework for measuring the results of community mapping	WHO	See Annex 2

All stages of community mapping should be conducted in alignment with established frameworks to ensure that it is ethical, inclusive and protective of all participants. Table 4 presents a curated list

of key frameworks and manuals that provide practical guidance, methodologies and good practices to guide an effective, inclusive and protective community mapping process.

Table 4. Related community mapping resources

Tool	Source
<i>Accountability to affected people: handbook on implementation in emergency response</i>	WHO (32)
<i>Strengthening health systems to respond to women subjected to intimate partner violence or sexual violence: a manual for health managers</i>	WHO (33)
<i>Strengthening local engagements and collaborations for more effective health emergency management: WHO localization strategy</i>	WHO (34)
<i>Manual on prevention and response to sexual exploitation and abuse</i>	IFRC (35)
<i>CEA guide</i>	IFRC (36)
<i>Community Engagement in Humanitarian Action Toolkit</i>	UNICEF (37)
<i>Core Commitments for Children in Humanitarian Action</i>	UNICEF (38)
<i>Accountability to Affected populations Handbook</i>	UNICEF (39)
<i>UNICEF Procedure on Ethical Standards in Research, Evaluation, Data Collection and Analysis</i>	UNICEF (40)
<i>UNICEF guidance note: Adolescent participation in UNICEF monitoring and evaluation</i>	UNICEF (41)
<i>UNICEF Policy on Personal Data Protection</i>	UNICEF (42)
<i>UNICEF Guidelines on Adolescent Participation and Civic Engagement</i>	UNICEF (43)
<i>IASC Guidelines for Integrating Gender-Based Violence Interventions in Humanitarian Action, 2015</i>	Inter-Agency Standing Committee (of which WHO, IFRC and UNICEF are a part) (44)



MEL

Effective MEL is crucial for the success of any community mapping initiative. MEL includes measurement: collecting data on indicators; evaluation: assessing these indicators against baselines and targets; and learning: using insights gained to improve ongoing and future interventions. Timely application of MEL processes ensures interventions are responsive, adaptive and impactful (45).

Based on the theory of change approach (46), community mapping interventions lead to more appropriate and accessible services, improved uptake, increased empowerment, and better social and material conditions. These improvements trigger enhanced health status and reduced health inequalities. The literature review carried out as part of this work (Annex 3) highlights the need for studies assessing the long-term effects of community mapping on public health outcomes and other

types of emergencies. While short-term studies show its effectiveness in enhancing resilience and response capacity, evidence is needed to define the long-term benefits.

Developing a MEL framework or plan is the first step in the MEL process. This plan should include a logical framework, which is central to measurement efforts. An example of a logical framework for measuring community mapping results is shown in Table A2.5. of Annex 2. This model framework should be adapted to local contexts and needs.

It is important to acknowledge that measuring outcomes, as compared to outputs, often requires significant additional resources, which should be considered during project planning. In low-resource settings, authorities and international emergency response organizations may choose to limit measurement to short-term outcomes. However, referencing the complete chain of results – from inputs to impact – is essential to guide future evaluations.



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Annexes

Annex 1. Guiding questions for stakeholder interviews

Experts in community mapping were interviewed to identify tips and assess methodologies on community mapping. The tips were then incorporated into the mapping toolkit. This Annex contains the guiding questions used for these expert interviews.

A1.1. Introduction to the interview

I am working with the WHO Regional Office for Europe to develop an implementation tool with practice-based tips on community mapping in health emergencies. We are conducting key informant interviews and would appreciate your participation. Do you consent

to our consultation being recorded and using some of your words as quotes? If yes, we will send you the quotes for review before using them. If you wish to say something “off the record” at any point, please let us know and we will stop recording. Thank you. We will start recording.

A1.2. Questions

Background

- Please could you tell me a bit about your organization (e.g. name, mission, activities)?

Tips for community mapping

- Based on your experience, what are the main principles that authorities/emergency responders/associations should apply to engage community mapping?
- Based on your experience, can you share suggested actions for mapping community structures, assets and marginalized members in health emergencies?
- Based on your experience, can you share your practical tips to authorities/emergency respondents/associations who want to do a community mapping exercise. Can you please structure your tips based on the emergency cycle:
 - preparedness - what to do before?
 - readiness - what to do when a specific health threat is imminent?
 - response - what to do during the response?
 - recovery - what to do after the emergency?

Project/intervention

- Could you provide an example of project/intervention run by your organization on community mapping in health emergencies (e.g. scope, objectives, results)?
- Do you think [the project/intervention] was useful for emergency preparedness or response? Why?
- Can you give an example of how [the project/intervention] helped people in your community?
- Do you have any video or photographs showing the intervention (or people/places involved with it)? Do you have any posters or artwork? [If yes, seek permission to use in the implementation tool]
- What support would your organization's need to carry out future community mapping exercises?
- Based on your experience, how do we measure success in community mapping?
- Do you have any advice based on experience/lessons learned to provide to authorities/emergency responses/associations who want to carry out a community mapping exercise on the creation of indicators to monitor and evaluate interventions?



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Annex 2. Suite of tools

Annex 2 provides a practical and adaptable suite of tools developed to support participatory community mapping in health emergencies. These tools are designed to help emergency responders, health authorities and community actors identify community structures, assets, communication channels and trusted influencers. The annex aligns with WHO's commitment to inclusive, ethical and evidence-based community engagement. The tools are summarized in Table A2.1, with each tool presented below.

Ease of use: Easy Moderate

Table A2.1. Tools and descriptions

No.	Tool	Description
1	Stakeholder matrix tool	Maps the influence, interest and contacts of relevant community stakeholders.
2	Profiles of community members tool	Provides a non-exhaustive list of stakeholders (e.g. government, health, civil society, youth, faith-based groups, media) to ensure diverse representation in mapping exercises.
3	Online questionnaire	Digital tool for collecting data from civil society organizations and community groups on their roles, challenges and communication preferences during health emergencies.
4	Key informant interview guide	Semi-structured interview tool to gather in-depth insights from community leaders and stakeholders about local structures, assets and engagement mechanisms.
5	Survey tool on community mapping	Standardized tool to assess community communication channels, trusted sources and health information needs.
6	Independent questionnaire for community mapping and asset identification	Maps stakeholders, infrastructure and marginalized groups, particularly when in-person mapping is not feasible.
7	5W mapping exercise (1) and World Café (2)	5W identifies who is doing what, where, when and for whom to avoid duplication and to maximize resources. A World Café facilitates structured discussion in large groups.
8	Community dialogue tool	Facilitates dialogue among health authorities, government agencies, civil society organizations and development partners.
9	Logical framework for measuring results	A results-based management tool outlining inputs, activities, outputs, outcomes and impact to monitor and evaluate the effectiveness of community mapping.
10	Minimum quality standards for community engagement	Adapted indicators to assess planning, participation and accountability, aligned with United Nations Children's Fund standards.

A2.1. Stakeholder matrix tool

Purpose of the tool: the stakeholder matrix is a practical tool for identifying and organizing key community actors – such as leaders, influencers, gatekeepers and organizations – based on their level of influence and interest.

What does the tool map?: the tool maps stakeholders by assessing their influence, interest, role and communication reach within the community. It helps visualize their potential contribution to emergency preparedness and response.

Ease of use: **easy.** Whether you use the tool by yourself or within your team based on existing contacts you have, the tool is easy to use with basic facilitation skills and can be applied through participatory workshops, interviews or desk-based exercises. Use of the tool benefits from local knowledge and participatory input to ensure accuracy and relevance.

Resources required: the stakeholder matrix tool can be completed by individuals or small teams with a basic knowledge of the community. To use the tool effectively, you will need basic materials such as flipcharts or printed templates (for in-person use) or a spreadsheet or digital template (for remote or digital use). Input from community members, local authorities and civil society organizations (CSOs) is essential. Facilitation support is helpful, especially when using the tool in group settings.

How to use the tool: this tool can be used in Stage 1 and Stage 2 of the mapping process (see the Full-scale community mapping section). Begin by defining the purpose of stakeholder mapping – whether for preparedness planning, risk communication or coordination. Compile a list of

known stakeholders, including both formal and informal actors. Assess each stakeholder based on their level of influence, interest, role in the emergency context and communication reach. Plot them on a matrix based on their influence and interest. This visual layout helps determine engagement strategies, such as close collaboration with

high-influence/high-interest actors or empowerment of low-influence/high-interest groups. Use the matrix to guide your outreach and coordination efforts and update it regularly as the context evolves and new actors emerge. Table A2.2 provides a sample stakeholder matrix.

Table A2.2. Sample stakeholder matrix

Stakeholder name	Category	Area of work	Role in the emergency response	Level of influence	Who the stakeholder influences the most:	Level of interest	Key priorities/ information needs	Preferred communication channel/ format
				high/ medium/ low		high/ medium/ low		

A2.2. Profile of community members tool

Purpose of the tool: this tool is essential for organizing effective in-person mapping exercises, community engagement workshops or community dialogues. By identifying and involving the right participants, you can ensure that diverse perspectives and expertise are included, leading to more comprehensive and effective emergency response planning and implementation.

What does the tool map?: the tool helps map out potential partners and stakeholders by providing a non-exhaustive list of profiles and community structures. This includes representatives from government authorities, civil society and community members. Engaging these actors ensures that health authorities, civil protection agencies and national/international organizations can effectively involve community members in emergency response efforts.

Ease of use: **easy.** It requires careful consideration of the context and appropriateness of participants.

Resources required: you will need access to a diverse pool of participants, including representatives from government, civil society and community members. Additionally, logistical resources such as a venue for the exercise, materials for documentation and facilitation tools will be necessary to conduct the mapping exercise effectively.

How to use the tool: this tool can be used in Stage 1 and Stage 2 of the mapping process. To use this tool, review the non-exhaustive list of sample profiles in Box A2.1 to identify who should participate in your exercise. Aim for a mix of representatives from various sectors to ensure a well-rounded perspective.

Box A2.1. Sample profiles of community members

Profiles from government authorities:

- staff working in health sector nonmedical profiles (e.g. RCCE-IM^a experts, communication officers, public relation experts);
- central and local governments;
- civil protection agencies (communication officers, public relation experts; and
- emergency response team members.

Profiles from health and care workers and organizations:

- general practitioners;
- nurses;
- community health workers;
- pharmacists;
- carers and informal caregivers;
- health and cultural mediators;
- midwives;
- ambulance personnel and paramedics;
- psychologists and psychiatrists;
- dentists;
- occupational therapists;
- medical specialists/secondary and tertiary health-care workers;
- social workers;
- health and care facility auxiliary workers (including those working in kitchens, cleaners, administrative, maintenance and technical staff, drivers);

^a risk communication, community engagement and infodemic management

Box A2.1. (Contd.)

- medical, nursing and pharmaceutical student networks;
- national professional associations;
- trade unions;
- emergency response organizations with paramedical staff;
- specialized networks (e.g. infectious disease networks or health-care workers specialized in immunocompromising conditions);
- associations of mental health professional;
- academic institutions (e.g. medical, public health, pharmaceutical, infectious diseases, social work, mental health faculties); and
- international medical organizations.

Profiles of youth and children:

- medical and pharmaceutical students' networks;
- young health professionals (e.g. nurses, social workers, psychologist);
- non-medical student networks;
- youth CSOs;
- young volunteer networks;
- youth-led associations;
- youth volunteer unions;
- youth workers;
- advocacy networks working on youth policies;
- associations representing youth with lived experiences of issues relevant for the emergency response;

Box A2.1. (Contd.)

- national youth representatives;
- young journalists;
- young bloggers and influencers;
- young artists;
- young athletes; and
- young researchers.

Profiles of faith-based actors:

- religious leaders (e.g. imams, sheiks, priests, rabbis, pastors, monks, nuns);
- faith-based organizations (e.g. charitable organizations, educational Institutions, health-care providers, humanitarian organizations);
- faith communities (e.g. congregations, parishes, dioceses, synagogues, temples, mosques);
- individuals representing interfaith councils or organizations promoting interfaith dialogue and cooperation;
- leaders or coordinators of youth groups affiliated with faith-based organizations, focusing on youth engagement and development;
- individuals responsible for outreach and community engagement activities within faith-based organizations or service communities;
- educators and instructors responsible for religious education and spiritual development within faith communities; and
- leaders or coordinators of women's groups within faith communities.

Box A2.1. (Contd.)

Profiles of CSO representatives:

- Red Cross and Red Crescent National Societies;
- health programme coordinators;
- health educators;
- community outreach coordinators;
- health volunteers;
- emergency response volunteers;
- social science researchers;
- public health faculty;
- community support coordinators;
- family support workers;
- community advocates (e.g. spokespersons of patient-led groups, health rights advocates);
- social media influencers;
- Representatives of CSOs working with underserved and marginalized communities;
- women's groups;
- older people;
- patients;
- people living with chronic conditions;
- people living with disabilities;

Box A2.1. (Contd.)

- migrants;
- ethnic minorities;
- refugees;
- lesbian, gay, bisexual, transgender and queer;
- peace advocates;
- Scouts;
- cause-based interest groups (e.g. environmental groups, anti-poverty organizations);
- professional organizations (e.g. medical associations, social workers associations, service providers associations);
- faith-based community organizations;
- identity-based community organizations (e.g. Roma associations, women's groups, youth associations);
- local community organizations;
- social community organizations (e.g. social clubs);
- health-condition-related community organizations (e.g. patient groups, support groups);
- international nongovernmental organizations;
- neighbourhood watch groups;
- parent-teacher associations;
- farmer associations; and
- agricultural committees.

Box A2.1. (Contd.)

Journalist profiles:

- media outlets
- radio stations
- bloggers
- health journalists
- science journalists
- environmental journalists
- technology reporters
- community news correspondents
- social issues reporters
- investigative reporters
- data journalists
- multimedia journalists
- freelance writers
- editorial columnists
- foreign correspondents
- photojournalists
- podcast hosts
- news producers
- fact checkers.

Box A2.1. (Contd.)

Community leaders:

- local authorities (e.g. decision makers, representatives of local authorities, public health officers, emergency management coordinators, disaster response coordinators);
- city planners;
- teachers;
- law enforcement;
- cultural mediators;
- social workers;
- youth leaders;
- community organizers;
- advocates;
- health workers;
- heads of women groups;
- social entrepreneurs;
- community health representatives;
- neighbourhood association heads;
- cultural group representatives;
- community centre directors; and
- traditional healers.

Box A2.1. (Contd.)

Community structures and infrastructure:

- community centres
- youth centres
- places of worship
- health facilities
- schools
- libraries
- recreation centres
- marketplace
- social club
- local businesses (that can be converted for instance into a foodbank)
- social service providers (e.g. for mental health, gender-based violence)
- shelters
- hotels
- parks
- public transportation
- roads
- early childhood education centres
- long-term care homes
- playgrounds
- sport facilities
- cinemas
- ambulances
- local universities
- local adult training institutes
- refugee centres.

A2.3. Online questionnaire tool

Purpose of the tool: the online questionnaire tool is designed to gather crucial information from communities and CSOs about their engagement in health emergencies. It helps identify existing community structures, effective communication channels and the main challenges faced during health crises.

What does the tool map?: it collects data on community responses, collaboration with partners, health literacy levels and the role of various community structures. This information is vital for improving emergency preparedness and response plans.

Ease of use: **easy.** The tool is designed to be accessible to community organizations and civil society groups with digital access, ensuring that they can provide valuable input without encountering technical difficulties.

Resources required: to effectively utilize this tool, the resources required include access to digital platforms for disseminating the questionnaire and analysing responses, as well as collaboration with local community leaders and CSOs. In cases where internet access is unavailable, alternative methods

such as paper-based surveys should be considered.

How to use the tool: this tool can be used in Stage 1 and Stage 2 of the mapping process. A sample online questionnaire is provided in Box A2.2. The following points should be considered:

- **Hosting the questionnaire:** the questionnaire can be hosted on platforms such as Microsoft Forms, Google Forms, Lime Survey and KoboToolbox depending on your available resources.
- **Timing:** conduct the questionnaire before or after organizing an in-person community mapping exercise. For health emergency preparedness, the questionnaire informs the development of an emergency preparedness and response plan; during emergency response, it helps identify community structures that can be leveraged.
- **Local context:** each local community has its own specificities. Therefore, care should be taken to create survey questionnaires based on the local context, the specific emergency and the stage of the response.

Box A2.2. Sample online questionnaire

Introduction to the online questionnaire

Welcome to our questionnaire! Through this questionnaire, we aim to engage with communities and CSOs that are providing health information and advice, engaging communities and responding to rumours in emergencies. Our goal is to understand existing community structures that enable community engagement. We also aim to identify effective channels and formats for disseminating public health advice.

Your participation is voluntary, and you may choose to skip any question or stop the questionnaire at any time. Please note that no personal data will be shared with others, and all information provided will be analysed anonymously. By participating, you consent to the use of your responses for research and analysis purposes to better support health authorities and communities.

Thank you for your time and valuable input.

Sample questions

1. How does your organization respond to health emergencies?
2. What are the main challenges your organization faces working with affected communities?
3. Who are the main actors/partners you collaborate with regularly?
4. Who are the organizations that are active in RCCE-IM^a?
5. Is there an emergency coordination mechanism on the response between CSOs/community-based organizations and local/national authorities with a focus on health issues?

^a risk communication, community engagement and infodemic management

Box A2.2. (Contd.)

6. What is the level of health literacy in the community you serve and what are the major knowledge gaps?
7. What are the main perceptions, fears and concerns among the population you serve in a health emergency?
8. What are the main barriers that prevent people in your community from accessing health or social services during emergencies (e.g. cost, distance, lack of information, discrimination, language barriers, fear of authorities)?
9. Are there specific beliefs, practices or social norms in your community that influence how people respond to health advice or emergency measures?
10. What structures exist in your community (e.g. community centres, youth centres, places of worship, medical centres, forums and councils)? Can you describe the role of these structures? Do they provide services or refer community members to needed services?
11. What assets does the community you work with have that could be activated in an emergency (e.g. ambulances, schools or food banks)?
12. What type of support would these community structures need in order to better serve your community?
13. What are the main sources of information that the community you work with use and trust, and what are the best channels (e.g. social media, word of mouth, friends, door-to-door activities, mass media) for communication?

Box A2.2. (Contd.)

14. Do they prefer offline or online platforms? If online, what social media platform do they prefer?
15. What are the rumours/misinformation/disinformation (related to health emergencies) that are frequently spread among your community?
16. Who does your community trust the most for information (e.g. health workers, religious leaders, community groups, international organizations, official sources)?
17. Have you identified community opinion leaders or influencers that can be engaged during health emergencies?
18. What are the gender and social norms in your community related to health? What are the differences between men and women?
19. What are the main marginalized groups in your community? How do you include them in your activities?

A2.4. Key informant interview guide

Purpose of the tool: this interview guide is designed to gather in-depth insights from key informants, including at-risk and affected community members, community leaders and civil society representatives. The interview guide helps to identify community structures, assets and challenges in health emergency preparedness and response.

What does the tool map?: the tool maps community structures such as centres, places of worship, medical facilities and forums. It also identifies community assets such as ambulances and food banks, and explores mechanisms for community feedback and engagement.

Ease of use: **easy.** The interview guide is to use and can be administered by interviewers with basic training. It requires minimal resources and can be conducted within a 45-minute timeframe.

Resources required: limited resources are needed to conduct these interviews. You will need

someone to identify participants, set up the interviews and write up the findings. This can be done with existing staff or with surge capacity.

How to use the tool: this tool can be used in Stage 1 and Stage 2 of the mapping process. A sample key informant interview guide is provided in Box A2.3. The following points should be considered:

- **Interview process:** aim to interview four to eight key informants, balancing between community members and their representatives. Preference should be given to local actors. Conduct these interviews during field visits or missions, with support from experts involved in the response, or academia or a research institute if resources allow.
- **Timing:** use this guide to prepare for in-person mapping exercises, community engagement workshops or the development of health emergency preparedness and response plans.

Box A2.3. Sample key informant interview guide

Introduction to the key informant interview guide

Hello [name], thank you for taking the time to meet with us today. My name is [your name] from the [name of the organization]. I will talk with community members and their leaders to understand and map out local groups and resources. This will help us communicate better, engage the community, and manage myths, rumours and false narratives during emergencies.

Your perspective is vital, and along with the interviews we are conducting with community members, CSO representatives and community leaders, it will help us to better understand the multifaceted challenges and opportunities we face.

This discussion is expected **to last around 45 minutes**. Please understand that due to our limited time, we may need to guide the conversation and move on to other questions as needed. Rest assured that everything you share with us will be treated with the upmost confidentiality. It is important to note that no personal data will be shared and the information will be analysed anonymously. You are not obligated to answer any question that makes you uncomfortable, and if at any point you wish to end this discussion, you may do so without providing a reason.

The insights gathered will inform the Ministry of Health and relevant responders, including government bodies, United Nation agencies and nongovernmental organizations, to engage communities in protecting themselves during emergencies, and to tailor responses to meet their specific needs

Before we begin, I want to ensure you are comfortable and ask if you have any questions or need any further clarification. Are you ready to proceed, or is there anything you'd like to address first?

Box A2.3. (Contd.)

Community structure mapping

1. What structures exist in your community, such as community centres, youth centres, places of worship, medical centres, forums and councils)? Who leads them? Who can be part of them?
2. Can you describe the role of these structures? Do they provide services or refer community members to needed services?
3. How well are these community structures connected to broader community dynamics, and in what ways do they engage or influence different groups within the community?
4. What assets does the community you work with have that could be activated in an emergency such as ambulances, schools or food banks?
5. What mechanisms are in place for receiving and incorporating community feedback into health initiatives? Can you share how this collaboration has led to improved outcomes?

Box A2.3. (Contd.)

Community engagement initiatives

6. What kind of support do you receive from local partners, nongovernmental organizations, CSOs and other stakeholders? In what ways does this support help you engage the community and respond to urgent needs? Can you provide examples of successes or challenges encountered?
7. What mechanisms are in place to ensure effective coordination among your organization, local partners and the community? How do you navigate challenges in coordination?
8. How flexible are these partnerships in adapting to the evolving needs of the community, especially in response to emergencies or unforeseen challenges?
9. How do religious and cultural beliefs, and social norms within the community influence health behaviours and your communication strategies?
10. How do people in your community go about finding support or resources within your community if they needed help with a health issue?
11. Can you share an experience where you or someone you know successfully found support or assistance for a health concern within the community? What made it successful?
12. In what ways do members of your community contribute to building a supportive health environment within your community?

Communication channels and health information

- 13.** Who in your community plays a key role in sharing information and engaging different groups during a health emergency (such as religious leaders, teachers, community health workers, youth, informal influencers)? How do they contribute to communication and community engagement efforts? How confident are you in the accuracy of the health information that reaches you or your community? Could you explain the process you typically follow to verify the accuracy of health information, especially when it comes from social media or other digital platforms?
- 14.** Could you provide examples or scenarios where misinformation has led to negative outcome, and discuss how such situations could be addressed or mitigated?
- 15.** In your role, do you take an active part in disseminating health information to your community? Can you explain why you choose to do so or not, and describe how you approach this responsibility?

A2.5. Survey tool on community mapping

Purpose of the tool: the survey tool is designed to gather essential information on community structures, communication channels and trusted sources of information within communities. This data will help in mapping community assets and understanding the dynamics that can be leveraged for effective risk communication, community engagement and infodemic management (RCCE-IM) during public health emergencies.

What does the tool map?: the tool maps community structures, communication channels and trusted sources of information. It identifies key informants, community leaders and representatives of civil society to provide a comprehensive understanding of community dynamics.

Ease of use: **moderate.** The tool can be administered by community workers or volunteers with minimal training. It provides a structured approach to gathering valuable insights from community members. However, the logistics of conducting an online or household survey can be complex.

Resources required: to conduct the survey, you will need a suitable virtual platform, recording devices, notepads or electronic pads. People collecting data will require proper training. Ensure that all necessary materials are available and that participants are well-informed about the objectives of the survey.

How to use the tool: this tool can be used in Stage 1 and Stage2 of the mapping process. A sample survey

tool on community mapping can be found in Box A2.4. The following points should be considered:

- **Identify participants:** based on your goals, choose a sample size and priority groups. At the very least, try to get a variety of people to participate that reflect the community as a whole (e.g. age, gender, level of risk). For quick assessments, this could mean talking to 30–50 people per area or 100–200 people per country to get a general idea of how people think and act. This isn't statistically representative, but it's still useful for planning an instant response. If you want to be statistically representative, you

will need to be more careful with the sampling method and sample size. It is advisable to partner with an academic or research institution to support survey design and analysis.

- **Set objectives:** clearly outline the goals of the survey, such as mapping community structures, identifying trusted sources of information and understanding community needs.
- **Logistics:** arrange for the survey to be carried out online or in-person, within a period of time and locality that meets the set objectives.

Box A2.4. Survey tool on community mapping

Introduction to the survey tool on community mapping

Dear participant,

We invite you to contribute to a crucial survey designed to assess the state of **RCCE-IM**^a within our country. Your participation will play a significant role in mapping community structures and enhancing our current efforts to communicate protective measures, engage communities and manage rumours in an emergency.

Your unique perspective is essential to identify the most effective communication channels at the community level. This survey, which is expected to take approximately **10 minutes** of your time, consists of a series of questions that will provide us with valuable insights into our ongoing strategies.

Please note that your comfort and privacy are our priorities. You are not obligated to answer any questions that make you uncomfortable and you may discontinue the survey at any point without any obligation to provide a reason for doing so.

The information gathered from this survey will be instrumental in informing the **Ministry of Health** and other key responders, including government bodies, United Nations agencies and nongovernmental organizations. Our goal is to enhance the health information and services provided during emergency responses, ensuring they meet the needs of those affected.

Your participation is purely voluntary and please feel free to skip any question or stop the survey at any time. We assure you that no personal data will be shared; all responses will be analysed anonymously and used strictly for the purpose of improving our emergency preparedness and response initiatives.

Thank you for your valuable time and input.

Sincerely, [Your Organization]

^a risk communication, community engagement and infodemic management

Box A2.4. (Contd.)

The survey tool

1. How often do you use the following sources for health information?

National television

Never [*] [*] [*] [*] [*] [*] [*] Very often

Foreign television

Never [*] [*] [*] [*] [*] [*] [*] Very often

Newspapers

Never [*] [*] [*] [*] [*] [*] [*] Very often

Health workers

Never [*] [*] [*] [*] [*] [*] [*] Very often

Social media

Never [*] [*] [*] [*] [*] [*] [*] Very often

Radio stations

Never [*] [*] [*] [*] [*] [*] [*] Very often

Governmental public health agencies

Never [*] [*] [*] [*] [*] [*] [*] Very often

World Health Organization

Never [*] [*] [*] [*] [*] [*] [*] Very often

2. Which are the most trusted sources of information you rely on about emergencies? (Select ALL that apply)

National television

Foreign television

Newspapers

Health workers

Radio stations

Governmental public health agencies

Social media

Print media (e.g. posters, flyers, billboards)

Box A2.4. (Contd.)

3. Do you use any of the following social media platforms? (Select all that apply)⁵

- Facebook
- Imo
- Instagram
- Odnoklassniki
- Telegram
- Viber
- VK
- WhatsApp
- X (formally Twitter)
- None
- Any other (Please specify) _____

4. Who in your community is a trusted source of information related to the health?

- Religious Leader
- Community leaders
- Community health workers
- Teachers
- Informal female leaders
- Journalists
- Red Cross and Red Crescent National Societies
- CSO workers working in the area
- Youth
- Any other (Please specify) _____

Box A2.4. (Contd.)

5. In a health emergency, where would you prefer to receive public health advice and information?
- Community centres
 - Youth centres
 - Places of worship
 - Health facilities
 - Schools
 - Libraries
 - Recreation centres
 - Marketplaces
 - Social clubs
 - Local businesses
 - Social service providers (e.g. for mental health and gender-based violence)
 - Shelters
 - Hotels
 - Parks/squares/plazas
 - Public transportation
 - Billboards
 - Early childhood education centre
 - long-term care facilities
 - Playgrounds
 - Sport facilities
 - Cinemas
 - Local universities
 - Local adult training institutes
 - Refugee centres

Box A2.4. (Contd.)

6. How easy/difficult is it for you to find information on treatments of illnesses that concern you?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
7. How easy/difficult is it for you to find out where to get professional help when you are ill?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
8. How easy/difficult is it for you to understand what your doctor says to you?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
9. How easy/difficult is it for you to find information on how to manage mental health problems such as stress or depression?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
10. How easy or difficult is it for you to understand public health advice about what to do or avoid during an emergency?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
11. How easy or difficult is it for you to tell whether health information in the media is trustworthy?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
12. How easy/difficult is it for you to understand information in the media on how to get healthier?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]

Box A2.4. (Contd.)

- 13.** How easy/difficult is it for you to understand advice on health from your family members or friends?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
- 14.** How easy or difficult is it for you to understand how your everyday actions affect your health?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
- 15.** How easy/difficult is it for you to assess the trustworthiness of the source when you receive new health information, including on social media or other digital platforms?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
- 16.** How easy or difficult is it for you to check if health information is accurate when it goes against official public health advice or guidelines?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
- 17.** When trying to stay updated with accurate health information and advice, how easy or difficult is it for you to identify reliable strategies or tools?"
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]
- 18.** If you needed help with a health issue, how easy or difficult would it be for you to find support or resources within your community?
[very easy] [Easy] [Difficult] [Very difficult] [I don't know]

A2.6. Independent questionnaire for community mapping and asset identification in emergency preparedness and response

Purpose of the tool: this tool is essential for conducting a community mapping exercise for emergency preparedness or response planning when resources for in-person mapping or stakeholder surveys are limited. It enables a comprehensive self-assessment of community actors and infrastructure that can be leveraged in emergencies, ensuring a well-coordinated and effective response.

What does the tool map?: the tool maps various aspects of the community, including emergency response coordination mechanisms, stakeholder feedback systems, organizations capable of mobilizing community members, local businesses, community leaders, existing networks and organizations working with marginalized

populations. It also identifies community centres, youth centres, places of worship, schools, libraries and social service providers that can support emergency preparedness and response.

Ease of use: **easy.** This does not require extensive resources. It can be completed by individuals or small teams with a basic knowledge of the community.

Resources required: the questionnaire format allows for easy reflection and analysis. The only resource needed is time.

How to use the tool: this tool can be used in Stage 1 and Stage 2 of the mapping process. An example independent questionnaire is presented in Box A2.5. The tool is designed to be user-friendly and requires minimal resources.

Box A2.5. Sample independent questionnaire for community mapping and asset identification in emergency preparedness and response

Introduction to independent questionnaire

Users can follow the structured questionnaire to gather information about their community's emergency preparedness capabilities. The questions are categorized into sections such as community mapping, communication channels and community asset identification, making it easy to navigate and complete.

Independent questionnaire

Community mapping

1. Is there an emergency response coordination mechanism that can be activated in an emergency (e.g. public health emergency operations centres, a health cluster or system)? If yes, at what level does it operate (e.g. community, district, national)?
2. Are there existing community feedback mechanisms or accountability to affected population working groups?
3. Are there existing community advisory boards or mechanisms for stakeholder feedback? If yes, at what level are they active (e.g. local, municipal, national)?
4. Which organizations have the capacity to mobilize community members quickly in case of an emergency? Which types of emergencies they are best suited for (e.g. disease outbreaks, conflict situations, climate-related events or other types of emergencies)?
5. Which CSOs have experience in emergency response or disaster relief? Which types of emergencies are they best suited to (e.g. disease outbreaks, conflict situations, climate-related events or other types of crises)?

Box A2.5. (Contd.)

6. Are there local businesses that can provide resources or services essential for emergency response? Which types of emergencies are they best suited to (e.g. disease outbreaks, conflict situations, climate-related events or other types emergencies)?
7. Which community leaders that have the trust and respect of the community have you worked with in the past to effectively communicate during emergencies?
8. Are there existing networks or coalitions at the community level that can be leveraged for emergency preparedness and response?
9. Which groups in your community face the greatest barriers to accessing services, participating in decision-making or receiving public health information during emergencies?
10. Are there organizations working with marginalized populations in emergency planning and response efforts (e.g. women's groups; older people; patient groups; people living with chronic conditions; people living with disabilities; migrants; ethnic minorities; refugees; lesbian, gay, bisexual, transgender and queer people)?
11. What resources do faith communities have that can be utilized during emergencies? Please describe any resources, services or support they provide, and indicate which types of emergencies they are most involved in (e.g. disease outbreaks, conflict situations, climate-related events). Who in the community is most influenced or supported by these faith communities during emergencies?

Box A2.5. (Contd.)

12. Which community actors are most relevant for emergency preparedness in your context (e.g. health emergencies, conflict situations, climate-related events)? What motivates community actors to engage with emergency responders, and what roles or contributions can they offer during preparedness efforts?
13. What community spaces are available in your area that could be used during an emergency (e.g. community centres, youth centres, places of worship, schools, shelters, distribution points)?
14. Which community spaces were used during the last emergency? What were they used for (e.g. information sharing, distribution, shelter, feedback collection).
15. What purpose did each community space serve?
16. Who accessed these community spaces? Were they inclusive and accessible to marginalized groups?
17. Were any of these community spaces managed by community actors or authorities?
18. Are there social service providers available in the community, especially those addressing mental health and gender-based violence? Are there shelters or safe spaces for marginalized individuals during emergencies?

Box A2.5. (Contd.)

Communication channels

19. Are there key public spaces that are critical for sharing health information during an emergency (e.g. parks, public transportation routes, roads)?
20. What one-way communication channels (e.g. SMS, television advertisements, radio spots, newspapers) exist for reaching the community?
21. What are the existing two-way communication channels for feedback during an emergency (e.g. social media, community meetings, stakeholder groups, call centres/hotlines)?
22. Are there public announcement systems like megaphones or sound trucks that can be deployed?
23. Is there the possibility to print materials for emergency information dissemination? What kind of materials do people tend to prefer? In what language?
24. Are there direct communication methods such as house-to-house visits, community meetings and information desks for emergency engagement (or did they exist in the last emergency)?
25. What communication channels or platforms are commonly used by different groups in your community (e.g. youth, women's groups, older people, patient groups, people living with chronic conditions or disabilities, migrants, ethnic minorities, refugees, LGBTQ+)^a that could be effective for emergency communication? What channels for communication are important for people offline or in rural/difficult to access areas?

^a lesbian, gay, bisexual, transgender, queer and more.

Box A2.5. (Contd.)

Community asset identification

26. What skills and abilities are prevalent among community members that could be utilized during a health emergency such as medical expertise, crisis management, communication and caregiving skills?
27. Can you list any health-care professionals, journalists, religious leaders, youth, community leaders or volunteers with relevant health experience in the community?
28. What are the existing mechanisms for community members to influence local budget discussions and approvals?
29. What financial resources are available within the community that can be directed towards a health emergency (e.g. from public institutions, philanthropies, the private sector)?
30. Are there any local funding initiatives or grants that could support emergency health measures?
31. What cultural practices or values could be leveraged to promote health and safety during an emergency (e.g. rituals, caregiving customs, mutual aid, faith-based practices, storytelling)?
32. Are there any community leaders or influencers who could help disseminate health information?
33. How can the community's transportation systems support the distribution of medical supplies and personnel as well as connect people to health services? Are there access limitations (e.g. in case of heavy rain)?
34. Are there environmental assets in your community (e.g. access to safe water sources, shaded areas, green spaces, natural ventilation, cooling zones) that could help protect health and well-being during emergencies? How can the community's environmental assets be leveraged during a health crisis?
35. How can environmental assets (e.g. such as land use practices, ecosystems, water sources, shaded areas, natural barriers) be leveraged during a health emergency, particularly in relation to zoonotic diseases and outreach to farmers' associations or agricultural communities? How do farming practices or land management affect exposure to zoonotic risks?

A2.7. The 5W mapping exercise and World Café⁶

Purpose of the tool: the 5W mapping exercise is a tool used for humanitarian coordination that can be adapted for enhancing coordination and accountability in RCCE-IM. The exercise helps identify who is doing what, where, when and for whom, ensuring that efforts are not duplicated and that resources are efficiently utilized. This exercise can be conducted within a technical working group on RCCE-IM, a health cluster, a working group for accountability to affected populations, coordination groups of donors or international partners, or any relevant group at the country level. The World Café is a method to facilitate discussion in large groups. Depending on your local context, breakout groups or other facilitation methods may be more effective.

What does the tool map?: the tool maps the RCCE-IM related activities being carried out, specifying the geographical areas where these activities are taking place. It also outlines the timeframes, indicating

when these activities are scheduled or have occurred, and identifies the primary beneficiaries of these activities.

Ease of use: **easy.** You may need to choose digital templates and online platforms facilitating data entry and analysis.

Resources required: a stable internet connection, access to online platforms for interactive sessions and a suitable venue for in-person sessions with breakout group capabilities are needed. To ensure the success of the session, it is essential to include facilitators for both the overall session and breakout groups. Additionally, a person should be designated to upload data or help visualize input from participants.

How to use the tool: this tool can be used in Stage 2 of the mapping process. The suggested components include but can be adapted to your needs:

⁶ A 5W identifies who is doing what, where, when and for whom to avoid duplication and to maximize resources. A World Café facilitates structured discussion in large groups.

- **Preparation:**
 - familiarize participants with the agenda and objectives;
 - ensure a stable internet connection and access to necessary online platforms; and
 - arrange a suitable venue for in-person sessions with breakout group capabilities.
- **Session 1 – 5W mapping exercise:**
 - use a digital document or online template to detail organizational activities;
 - clearly outline:
 - **who:** identify who is leading the activities
 - **what:** describe community protection activities and initiatives
 - **where:** specify geographical areas of operation
 - **when:** indicate the timeframe for activities
 - **for whom:** identify who is being reached.
- **Session 2 – World Café:**
 - discuss the strengths and challenges of the community protection system
 - explore ways to enhance collaboration with community actors
 - identify the benefits of a community protection coordination mechanism.

Table A2.3 presents a sample agenda for a mapping exercise, it can be adapted as necessary to fit your needs, for example, additional presentations can be added.

Table A2.3 Sample agenda for a mapping exercise

Suggested Time	Agenda item
15–30 minutes	<ul style="list-style-type: none">• Workshop objectives• Agenda intro• Participant introductions
1–2 hours	<ul style="list-style-type: none">• 5W exercise
1–2 hours	<ul style="list-style-type: none">• Presentation from local groups (e.g. Red Cross and Red Crescent National Societies)
1–2 hours	<ul style="list-style-type: none">• Breakout groups to discuss strengths, challenges, ways for better cooperation, how national community protection coordination or community feedback mechanism benefits partners' work
30 minutes–1 hour	<ul style="list-style-type: none">• Discussion on common findings from the breakout groups

A2.8. Community dialogue tool

Purpose of the tool: the tool can facilitate dialogue among health authorities, government agencies, CSOs and development partners. It aims to strengthen community engagement initiatives by aligning them with WHO norms. Additionally, the tool provides a platform to share and reflect on community engagement experiences at both national and international levels, fostering a comprehensive understanding and collaboration among stakeholders.

What does the tool map?: the tool can facilitate current community engagement initiatives by identifying priorities and gaps in community engagement. It also helps in developing strategies for mobilizing communities for health emergency preparedness. Additionally, if organized properly, the tool can be used to conduct participatory exercises to identify community structures, needs, assets and trusted community influencers.

Ease of use: **moderate.** It requires coordination among multiple stakeholders.

Resources required: facilitators, academic experts, representatives from health authorities and civil society, meeting space, documentation tools and a budget for logistics.

How to use the tool: this tool can be used in Stage 2 of the mapping process. Table A2.4 presents a sample community dialogue agenda. Using the tool would entail:

- **Preparation:** identify key stakeholders, gather relevant data and experiences from local responders or other countries;
- **implementation:** organize a community dialogue session, frame discussions, present experiences and reflect on strategies; and
- **follow-up:** document outcomes and develop action plans based on identified priorities.

Table A2.4. Sample agenda community dialogue

Suggested Time	Agenda item	Suggested participant
15–30 minutes	Official opening and welcome	Senior official at the Ministry of Health WHO Head of Country Office
15–30 minutes	Setting the scene: what is community engagement and why it matters to emergency preparedness	WHO or Ministry of health expert
15–30 minutes	Community engagement in emergency response	Ministry of Health expert
15–30 minutes	Country experiences: community engagement in emergency	Local CSO presentation
15–30 minutes	Country experiences: community engagement in emergency	Ministry of health expert from a different country
15–30 minutes	International experience: community engagement example from health authority in another country	CSO presentation from a different country
15–30 minutes	International experience: community engagement example from a civil society health authority in another country	5W exercise
15–30 minutes	Community engagement in five steps	WHO expert
1–2 hours	Break out groups: <ul style="list-style-type: none"> • how can community groups be more involved in community protection initiatives in emergency preparedness and response? • what support do community groups need to be involved in community protection initiatives in emergency preparedness and response? • how can the sustainability of community protection initiatives to promote community participation be ensured? • what are the policy priorities to enhance community engagement in health emergencies? 	
15–30 minutes	Closing remarks	Senior official at the Ministry of Health, WHO Head of Country Office

A2.9. Logical framework for measuring the results of community mapping

Purpose of the tool: community mapping should not be a standalone activity. Integrating it into broader emergency response logical framework⁷ ensures that the insights gathered from communities directly inform planning, coordination and decision-making. This alignment helps tailor interventions to local realities and supports multisectoral emergency preparedness and response – beyond just community protection.

Ease of use: **moderate.** The tool is adaptable to different emergency contexts and can be used by teams with basic familiarity with log frames and participatory methods. It benefits from collaboration between emergency responders, community actors and technical staff.

Resources required: the logical framework for measuring the results of community mapping requires:

- a draft or existing emergency response logical framework;
- community mapping data (e.g. stakeholder lists, assets, risks, needs);
- time for coordination across sectors;
- input from community representatives and local authorities; and
- facilitation support for participatory planning , if group exercise or you can do the exercise by yourself depending on resource availability.

⁷ A logical framework (often called a “logframe”) is a structured planning and monitoring tool that outlines the objectives of a project, the activities needed to achieve them, and the indicators used to measure progress. It typically includes inputs, outputs, outcomes, and impact, along with assumptions and risks, presented in a matrix format to ensure clarity and accountability.

How to use the tool: this tool can be used in Stage 3 of the mapping process. A sample logical framework for measuring the results of community mapping is presented in Table A2.5. The following three steps should be followed:

1. start with your emergency response logical framework and identify where community mapping insights can be integrated, especially in objectives, activities and indicators related to community engagement, protection and resilience;
2. use mapping results to populate key sections of the log frame, such as:

- inputs: community actors, assets and structures;
 - activities: participatory planning, feedback mechanisms;
 - outputs: mapped vulnerabilities, inclusive plans;
 - outcomes: improved trust and uptake of services; and
3. update the logical framework regularly as new mapping data becomes available, especially during different stages of the emergency life cycle (preparedness, response, recovery).

Table A2.5.. A sample logical framework for measuring the results of community mapping

	Inputs	Activities	Outputs	Outcomes
Description	<p>Human resources:</p> <ul style="list-style-type: none"> • Trainers • Community members • Local organizations <p>Data:</p> <ul style="list-style-type: none"> • Training materials • Information sources • Stakeholder lists • Stakeholder input • Community data • Organizational data • Geographical data • CSO data <p>Tools:</p> <ul style="list-style-type: none"> • Contextual analysis tools • Engagement tools • Data collection tools • Assessment tools • Mapping tools • Needs assessment tools 	<ul style="list-style-type: none"> • Clearly outline the goals and objectives of the mapping process, identify priority audiences, conduct stakeholder meetings and perform contextual analysis. • Identify and engage local and national health actors and other relevant stakeholders. • Gather and integrate information from various sources for comprehensive community mapping and integrate data into mapping activities. • Evaluate the resources, expertise and reach of the organizations involved in community mapping. • Map the locations and operational areas of health actors and identify service gaps, and update mapping data regularly. • Identify needs and gaps in emergency response and match them with CSO capabilities. • Organize workshops or dialogue sessions with community actors. • Conduct training sessions and educational campaigns to build capacities and capabilities. 	<ul style="list-style-type: none"> • Identified local actors and relevant community structures, documented goals and objectives, mapped capabilities, identified audiences and service gaps. • Comprehensive database of information sources. • Comprehensive visualization of health actor reach and operational areas. • Communities and local organizations trained on emergency preparedness and response. 	<p>Short-term Health authorities and international organizations:</p> <ul style="list-style-type: none"> • gain a comprehensive understanding of the community's structures, needs and resources, identify trusted sources of information and access hard-to-reach groups; • incorporate community mapping into developing emergency preparedness and response plans and appropriate and accessible interventions to connect people to services; • establish a feedback mechanism to listen to the concerns, perceptions and needs of communities; and • open opportunities for collaboration with CSOs. <p>Mid-term Community actors:</p> <ul style="list-style-type: none"> • amplify health information and advice; • enjoy strengthened collaboration, coordination and trust during emergency response; • become active participants in health emergency response, participating in decisions that affect them; and • improve their own capabilities with the training, effectively aligning them with community needs. <p>Long-term The public:</p> <ul style="list-style-type: none"> • trusts in the government and improves social cohesion; and • accepts and uptakes preventive measures.

Table A4.5. (Contd.)

	Inputs	Activities	Outputs	Outcomes
Indicators	<i>(quantify the resources)</i>	<ul style="list-style-type: none"> • Number of stakeholder meetings • Number of dialogue sessions • Number of capacity assessments • Number of needs assessments • Number of training sessions 	<ul style="list-style-type: none"> • Number of actors identified • Number of information sources identified • Number of matched CSO capabilities • Accuracy and completeness of community mapping data • Number of participants trained 	<ul style="list-style-type: none"> • Emergency preparedness and response plans and interventions with integrated community mapping • Existing community feedback mechanism • Trainees' satisfaction, knowledge, retention and transfer • Stakeholder engagement levels • Stakeholder satisfaction • Public intention to act on public health advice • Public use of preventive measures • Public trust level
Means of Verification	Internal records of finances, personnel and assets	<ul style="list-style-type: none"> • Meeting minutes • Documented goals and objectives • Contextual analysis reports • Dialogue session reports • Engagement records • Data collection records • Capacity assessment reports • Organizational data records • Service gap reports • Needs assessment reports • CSO capability records • Training reports 	<ul style="list-style-type: none"> • List of identified actors • Stakeholder lists • Information source lists • Analysis of community mapping checklists • CSO capability matching documentation • Geographical maps • Integrated database • Training attendance records 	<ul style="list-style-type: none"> • Review of emergency preparedness and response plans and intervention reports • Review of evidence of the community feedback mechanism (community feedback trends analysis) • Pre- and post-training surveys • CSO capability matching documentation • Stakeholder surveys and interviews • Survey of the audience on intentions and self reported practices • Health statistics on the use of preventive measures

A2.10. United Nations Children's Fund (UNICEF)'s *Minimum Quality Standards and Indicators for Community Engagement*

Purpose of the tool: health authorities and international emergency response organizations may utilize UNICEF's *Minimum Quality Standards and Indicators for Community Engagement (3)* to self-assess whether their community engagement initiatives at large align with minimum standards of quality. While all standards present a holistic approach to quality assessment, community mapping is supporting Standard 8 that focuses on the planning and preparation stage of community engagement project cycle.

Ease of use: **easy.** You can rate your own activities following the indicators and scale used.

Resources required: the following resources are required to use the tool:

- human resources: staff who are familiar with community engagement principles, ideally with a social science background;
- technical resources: access to UNICEF's *Minimum Quality Standards and Indicators for Community Engagement* document, indicator templates and reporting tools (digital or paper-based); and
- coordination resources: engagement with local authorities, CSOs and community representatives to validate findings and ensure participatory reporting.

How to use the tool: To report on the achievement of Standard 8, health authorities and international emergency response organizations may adapt the indicators referenced in Table A2.6.

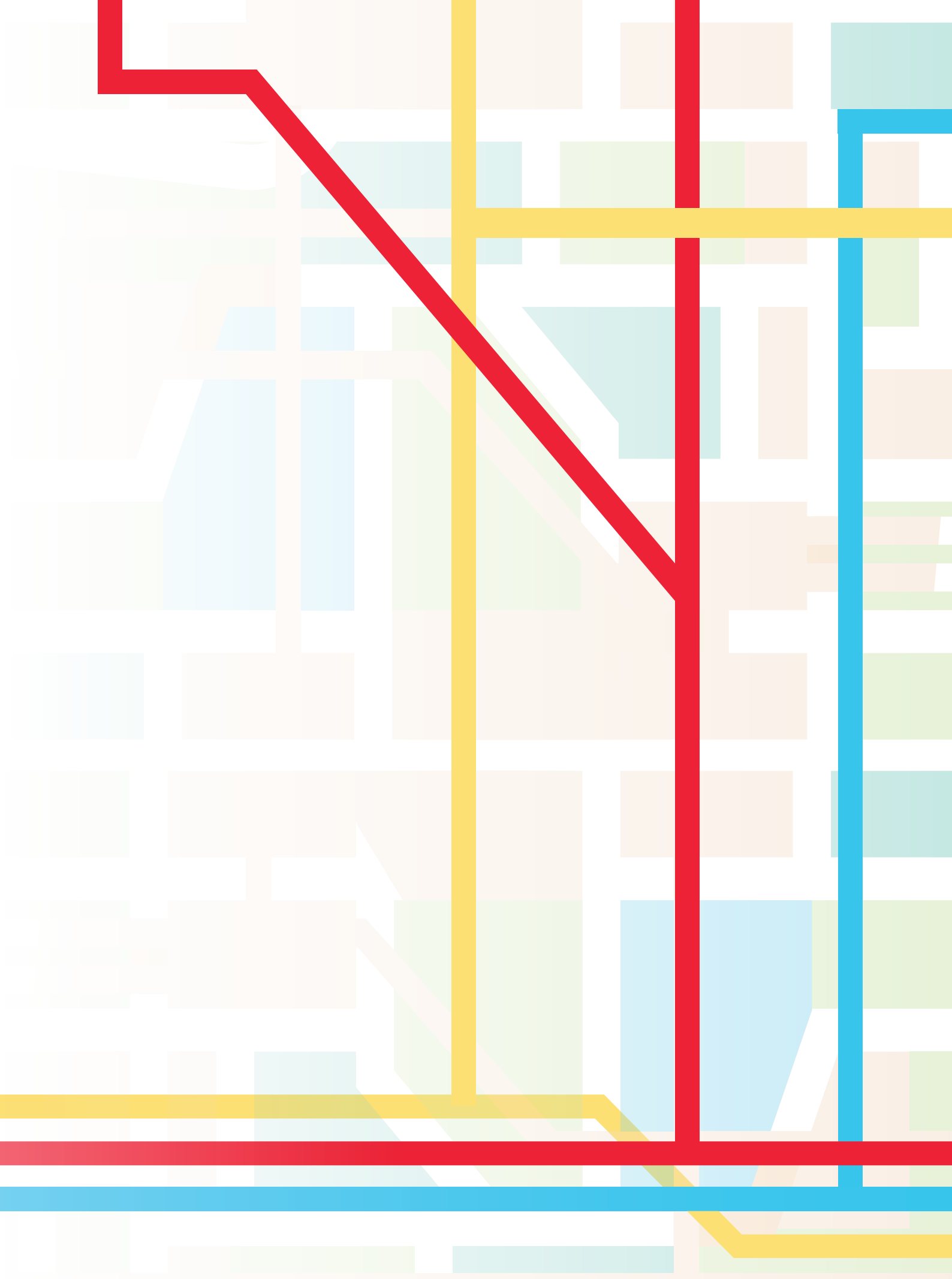
Table A2.6. Supported indicators for the quality assessment of community engagement

Indicator name	Reference	Scale (1–5) for reporting
Local government staff are tasked with representing the government in participatory planning and preparation activities.	Minimum Standard 8, Indicator B.8.1 for national and local governments	<ol style="list-style-type: none"> 1. achievements are minor and there are few signs of planning or forward action to improve the situation. 2. achievements have been made but are incomplete and while improvements are planned, the commitment and capacities are limited. 3. there is some institutional commitment and capacities to achieving the goal, but progress is not comprehensive or substantial. 4. there has been substantial achievement, but with some recognized deficiencies in commitment, financial resources or operational capacities. 5. there has been considerable achievement, with the commitment and capacities to sustain efforts at all levels.
Community representatives are engaged in government planning and preparation activities.	Minimum Standard 8, Indicator B.8.2 for national and local governments	
A participatory assessment has been conducted and results shared with communities.	Minimum Standard 8, Indicator B.8.1 for nongovernmental organizations, CSOs and implementing agencies	
Transparency and accountability have been established with communities through the development of a written community action plan co-developed with community stakeholders.	Minimum Standard 8, Indicator B.8.2 for nongovernmental organizations, CSOs and implementing agencies	

References⁸

1. Health Cluster 3/4W Tool. Geneva: Health Cluster; 2021 (<https://healthcluster.who.int/publications/m/item/health-cluster-3-4w-tool>, accessed 12 November 2025).
2. Brown J, Isaacs D. *The World Café: Shaping Our Futures Through Conversations That Matter*. Oakland: Berrett-Koehler Publishers; 2005.
3. *Minimum Quality Standards and Indicators for Community Engagement*. New York: UNICEF; 2020 (https://www.unicef.org/mena/media/8401/file/19218_minimumquality-report_v07_rc_002.pdf.pdf, accessed 29 October 2025).

⁸ All references were accessed 12 November 2025.



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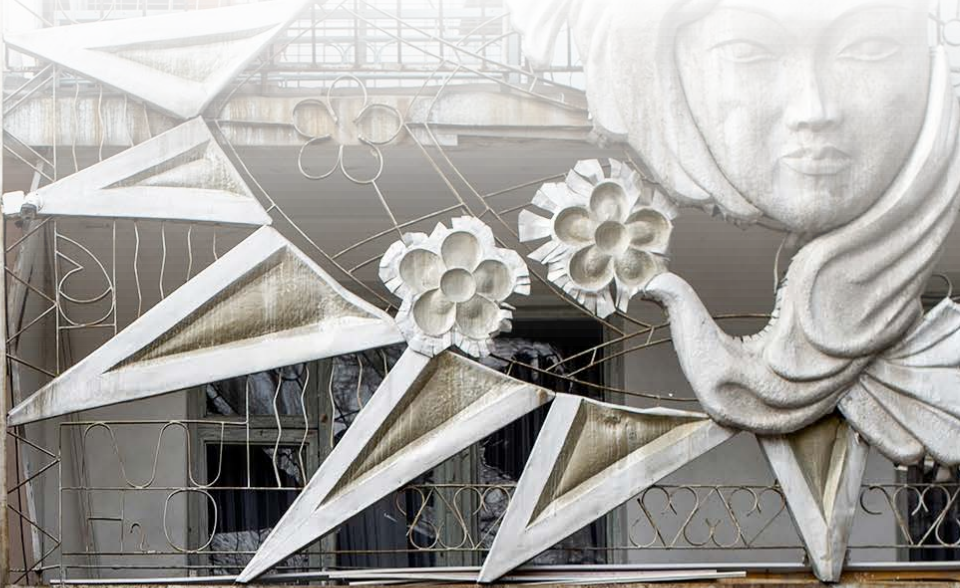
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Annex 3. Community mapping in health emergencies: a literature review

Introduction

Health emergencies, including pandemics, natural hazards and humanitarian crises, necessitate rapid and well-coordinated responses. Communities are often the first responders, and their local knowledge, networks and resources can be crucial in reducing the impact of emergencies. To effectively engage communities, it is essential to understand the structures and systems that can be mobilized. Community mapping identifies key actors and resources, providing a clear picture of preparedness and opportunities to strengthen resilience.

WHO has increasingly focused on identifying and mobilizing community resources to enhance preparedness and resilience, recognizing that community engagement plays a pivotal role in tailoring effective public health interventions during crises (1–5). The main findings from the literature review are synthesized and presented in the section ‘Findings from Evidence Synthesis,’ organized thematically to reflect recurring concepts and patterns across the reviewed sources. This structure enables readers to quickly grasp key dimensions and compare approaches.

A3.1. Objectives

The primary objective of this literature review is to systematically examine and synthesize existing literature on community mapping in the context of public health emergency preparedness. The specific objectives of the review are to:

- evaluate and categorize community mapping approaches in public health emergency preparedness within the WHO European Region;
- assess their effectiveness in enhancing community resilience
- identify gaps in the current literature; and
- provide recommended actions for integrating community mapping into tailored public health strategies.

A3.2. Research questions

The following research questions guided this literature review:

- What are the existing approaches and tools for community mapping in the context of engagement in public health emergency preparedness?
- How have these approaches been applied in different geographic and cultural contexts, particularly within the European Region?
- What are the key community actors, structures and systems identified through community mapping and engagement that contribute to public health emergency preparedness?
- How effective are current community mapping tools in enhancing community resilience during health emergencies?
- What are the limitations and challenges associated with current community mapping practices in the field of public health?
- What gaps exist in the current literature and what areas require further research to improve community mapping practices?

A3.3. Methods

Literature search strategy

A literature search was conducted using a systematic approach to ensure comprehensive coverage of the topic. The PubMed academic database was searched to retrieve

the relevant articles. The search covered publications from January 2014 to August 2024 published in English.

Data extraction and management

The literature review process was managed using Covidence. After removing one duplicate, the titles and abstracts of 1918 identified studies were screened against the inclusion and exclusion criteria. Inclusion criteria: peer-reviewed articles, reports and case studies published in English between 2014 and 2024 that examined community mapping for public health emergency preparedness, conducted in the WHO European Region or globally, and addressing the identification of community actors,

structures, systems and assets relevant to health emergencies. Exclusion criteria: non-English publications, studies published before 2014 and articles unrelated to community mapping or focused solely on clinical or biomedical aspects without community-level analysis. For studies that met the inclusion criteria, full-text articles were retrieved and further assessed for eligibility. Data from 43 eligible studies were synthesized into this review.

A3.4. Findings from evidence synthesis

Community mapping is a critical tool in public health emergency preparedness and response, allowing stakeholders to identify and mobilize key community actors, structures and systems. This report provides a comprehensive synthesis of the existing literature

on community mapping practices specifically within the European Region, examining the tools and approaches used, their effectiveness, the role of community mapping in enhancing resilience and the gaps that need addressing for future research and practice.

Identification and categorization of community mapping tools and approaches

Community mapping methodologies in the European Region have evolved significantly, incorporating both traditional and advanced digital tools to respond to health emergencies (6). The approaches and tools used across different European countries demonstrate a wide range of techniques tailored to local contexts.

Geospatial analysis has been a cornerstone in community mapping efforts, particularly in identifying at-risk areas and planning emergency responses. In Cyprus, for instance, geospatial analysis was used to delineate flood risk zones, utilizing statistical and multi-criteria decision analysis methods to map out areas prone to flooding (7).

Similarly, in Romania, Geographic Information System (GIS) spatial analysis was applied to map flash flood vulnerabilities in the Valea Rea Catchment Area, providing a detailed visual representation of risk areas that can be crucial for emergency preparedness (8).

The One Health approach, integrating human, animal and environmental health into community mapping, has been particularly emphasized in Italy, Netherlands (Kingdom of the) and Spain. A study in these countries evaluated surveillance systems for tick-borne diseases, highlighting the importance of a multidisciplinary approach in mapping and managing health risks that cross human and animal boundaries (9–10). This approach is increasingly relevant in Europe due to the complex interplay between environmental changes and emerging health threats (11).

Community engagement through **participatory approach** was highlighted during the coronavirus disease (COVID-19) pandemic (12). In Ireland, a community-health

partnership was developed to mitigate the impact of the pandemic on marginalized and vulnerable populations such as traveller and Roma communities. This approach involved local actors in the mapping process to ensure that interventions were culturally appropriate and effectively targeted (13). Similarly, in the United Kingdom, community diaries were used to map local responses to COVID-19, providing real-time insights into community needs and capacities (14).

Digital and remote sensing technologies, including the use of Unmanned Aerial Vehicles (UAVs) for mapping purposes has been explored in Italy, where they were deployed to assess and enhance emergency response capabilities (15). These technologies provide high-resolution data that can be crucial for real-time decision-making during emergencies. In Germany, digital tools were also employed in managing a Lassa fever outbreak, demonstrating the potential of integrating digital health solutions with community mapping (16).

Assessment of effectiveness in identifying key community actors, structures and systems through community mapping

The effectiveness of community mapping in the European Region has been assessed through various metrics, including the identification and mobilization of key community actors, the mapping of critical infrastructure and the engagement of communities in emergency preparedness to build synergistic relationships between institutional authorities and the community; as seen in Netherlands (Kingdom of the) and Spain (17). Evidence from European Region countries demonstrate that community mapping is effective in identifying and mobilizing key actors and structures, especially when local communities are actively involved in the process.

Examples of effective community mapping approaches included the identification of key actors and structures in flood-prone regions of Austria using a bottom-up citizen initiative approach (18). In Italy, community mapping was integrated into the health-care system to assess primary health-care disaster preparedness by mapping out health-care facilities and personnel, ensuring that resources could be effectively allocated during emergencies (19). In Spain, a participatory process involving local communities in identifying critical infrastructure and vulnerable areas, leading to a democratized approach to wildfire management was employed to map wildfire risks in the

Montseny region of Catalonia (20). This ensured that emergency responses could be tailored to the specific needs of the region (21,22) or – in the case of the Netherlands (Kingdom of the) emergency department and Norwegian general practice preparedness during the COVID-19 pandemic – specific facilities (23,24).

An example from the United Kingdom during the COVID-19 lockdown involved engaging community members in diary studies, enabling researchers to gain a nuanced understanding of local needs and responses, which led to more targeted and effective

interventions (14). Similarly, in Bremen, Germany, trained community health mediators were involved in COVID-19 prevention measures, highlighting the importance of community-led initiatives in managing public health crises (25). Community engagement promoted trust building in pandemic preparedness (26); enhanced effective risk communication tailored to different populations, including children (27–30) and situations, such as conflicts as seen in the war in Ukraine (31); addressed pandemic-related stigma (32) and increased the acceptability of community-based response (33–35).

Role of community mapping and engagement in enhancing community resilience

Community resilience is a crucial outcome of effective community mapping. In Europe, various approaches have been employed to enhance the resilience of communities facing health emergencies and to harness resources in communities that are differentially exposed to disease outbreaks and health emergencies (36). Tools such as the Public Health Engagement Scale for Emergency Settings measure the level of citizen engagement during emergencies, indicating how well community mapping tools can enhance community resilience (37).

Community mapping enhances resilience by fostering community empowerment, increasing awareness (38,39), supporting marginalized populations (40,41)

and facilitating cross-border collaboration (42). For instance, in Ireland, involving marginalized communities during the COVID-19 pandemic empowered them to take ownership of their health and improved long-term resilience (13). In Portugal and Sweden, community empowerment in the context of climate change involved mapping community capacities and vulnerabilities. This mapping exercise helped increase local awareness of climate-related health risks and empowered communities to take proactive measures (43). In Spain, participatory wildfire risk mapping allowed residents to integrate local knowledge into the emergency response, ensuring interventions matched the region's specific needs. Furthermore, cross-border collaborations, such as

those between Greece and Türkiye following the Samos earthquake, facilitated the sharing of resources, enhancing regional recovery efforts (44). In Netherlands (Kingdom of the), the inclusion of older adults in preparedness and recovery phases increased resilience (41).

Beyond participatory practices, fostering genuine community agency and empowerment is essential to move beyond tokenistic involvement and address structural power imbalances in emergency

preparedness (45). These examples from across the European Region demonstrate that community mapping is not only a tool for immediate emergency response but also a critical component of long-term community preparedness and resilience building. By empowering communities, enhancing knowledge, fostering cross-border collaboration and supporting marginalized populations, community mapping contributes significantly to the overall pandemic preparedness of European communities.

Benefits of identifying community actors and assets in health emergency preparedness and response

Addressing the weaknesses above in future research will be essential in advancing community mapping practices in the European Region, ensuring that they are inclusive, culturally adaptable and capable of integrating with emerging digital technologies.

While community mapping has proven to be effective in various contexts across the Region, several gaps in the literature need to be addressed to further enhance its utility and effectiveness. Many studies describe participatory mapping but lack a systematic evaluation of its effectiveness in improving preparedness or resilience. There is also an absence

of frameworks for integrating community mapping into health system decision-making, resulting in ad hoc applications that are not embedded in formal emergency preparedness plans. Furthermore, comparative research across countries and regions is scarce, and there is a notable lack of studies from central Asia, eastern Europe and the western Balkans within the European Region, limiting understanding of how approaches differ and what best practices can be generalized. Longitudinal studies are also missing; while short-term successes have been observed, there is little evidence on the long-term impact of community mapping on public health outcomes.

A3.5. Strengths and weaknesses of existing community mapping tools and engagement approaches in public health emergency preparedness

The strengths of existing community mapping tools in public health emergency preparedness include the precision and data-driven insights offered by geospatial tools, as seen in Cyprus and Romania, where Geographic Information System-based mapping effectively identified flood-prone areas for targeted interventions (7,8) and the deployment of UAVs and other digital tools to gather real-time data for emergency response mapping in Italy (15). Another strength is the integration of multidisciplinary approaches, such as the One Health model in Italy, Netherlands (Kingdom of the) and Spain which enhanced responses to zoonotic diseases through cross-sector collaboration (9,46).

However, the weaknesses include limited integration with digital health technologies, which can lead

to delays in data processing, as seen in Germany's response to the Lassa fever outbreak (16). There is also an underrepresentation of marginalized populations, which risks leaving out critical groups from interventions (13,25), and a lack of cultural adaptability in mapping tools, as evidenced in Spain and the United Kingdom, where tools often failed to resonate with diverse local populations (14,20). Efforts like those in Germany Ireland have made progress (13,25), but there is still insufficient inclusion of marginalized groups in mapping efforts across Europe (47). Additionally, there is lack of systematic approaches to knowledge sharing and collaboration and instances like the cross-border collaboration between Greece and Türkiye following the Samos earthquake (45) need to encouraged.

Literature search strategy

Identifying community actors and assets significantly enhances health emergency preparedness and response by fostering cultural competence, leveraging local knowledge and enabling collaboration. In Ireland, community health workers from marginalized groups, such as traveller and Roma communities, played a vital role in translating public health information into culturally relevant formats, improving compliance with health measures during COVID-19 (13). In Germany, community health mediators used their multilingual skills and trust within immigrant communities to bridge communication gaps with public health authorities (25). In Spain and the United Kingdom local residents contributed real-time data through diary studies during the COVID-19 lockdown and community engagement and participatory processes, which helped tailor public health interventions to meet specific community needs (14,20). Additionally, the cross-border collaboration between Greece and Türkiye following the Samos

earthquake showed the benefits of emergency responders and local authorities working together, pooling resources and sharing expertise to enhance recovery efforts (9,45).

These examples underscore the importance of involving trusted local actors and assets in creating effective, community-driven health emergency responses. The actors and assets identified through community engagement in Europe reveals a diverse and context-specific set of strategies that have been effective in different countries. The involvement of culturally competent actors, the use of real-time local knowledge and an emphasis on cross-border and multidisciplinary collaboration are key factors that have contributed to the success of health emergency preparedness and response efforts across the continent. However, there is also a need for continued focus on inclusivity, ensuring that all segments of the population are represented and that their unique assets are fully utilized in preparing for and responding to health emergencies.

A3.6. Recommended actions for integrating community mapping and engagement into public health strategies

Based on the evidence synthesized from European Region countries, integrating community mapping and engagement into public health strategies requires:

- promoting community mapping practices tools that are inclusive of all community members, particularly marginalized groups (13,25);
- leveraging digital technologies for real-time data collection, such as integrating the use of UAVs and mobile health platforms into community mapping to enhance real-time data collection and response (15,25);
- facilitating cross-border collaboration and knowledge sharing (45); and
- developing culturally adaptable community mapping tools that can be effectively applied in diverse contexts across the Europe Region, which should be prioritized (14,20).

Conclusion

Community mapping is a vital component of public health emergency preparedness and response in Europe. The evidence synthesized in this literature review demonstrates that community mapping can effectively identify and mobilize key actors, enhance community resilience, and assess health systems response to support marginalized populations during emergencies (48,49).

While the strengths of existing community mapping tools and approaches in Europe lie in their ability to provide precise, data-driven insights, engage communities and integrate multidisciplinary perspectives, there are notable

weaknesses and significant challenges that need to be addressed. These include the need for better integration with digital health technologies, more inclusive practices (marginalized populations), culturally adaptable tools, longitudinal impact assessments and enhanced cross-border collaboration.

Addressing these weaknesses will be crucial in advancing the effectiveness of community mapping in public health emergency preparedness across Europe, ensuring that all communities in Europe are well-prepared to respond to and recover from health emergencies.

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Annex 4. International frameworks relevant for community mapping

Community mapping is integral to various international frameworks for emergency preparedness. Table A4.1 provides an overview of international frameworks and their references to community mapping. The importance of community mapping within the frameworks of WHO, the International Federation of the Red Cross and Red Crescent Societies (IFRC) and the United Nations Children’s Fund (UNICEF) is indicated in Table A4.2, Table A2.3 and Table A4.4 respectively. Readers can use the tables to understand how participatory community mapping aligns with and strengthens key international and institutional frameworks for health emergency preparedness and response.

Table A4.1. Community mapping in international frameworks

Framework	Framework overview	Community mapping reference summarized
Global health security		
<i>International Health Regulations (2005) (1)</i>	The International Health Regulations benchmarks framework promotes inclusive, community-centred governance and provides a practical tool for countries to assess, prioritize and strengthen community engagement within health emergency preparedness and response.	Benchmark 16B on Community Engagement (2) for the IHR’s implementation section on developed capacity includes: <ul style="list-style-type: none"> • “mapping key stakeholders such as community leaders, faith-based organizations and civil society to contribute to the development and implementation of health emergency preparedness and response plans”; and • “conducting participatory community risk assessments, context analysis, hazard mapping, health profiling, vulnerability mapping, capacity assessment, context analysis and readiness planning in priority communities through inclusive approaches with the involvement of nongovernmental organizations, civil society organizations and community-based organizations and networks”.
<i>Joint external evaluation tool: International Health Regulations (2005), 3rd ed (3)</i>	The Joint external evaluation tool under the International Health Regulations (2005) enables countries to assess their capacities for preventing, detecting and responding to public health risks, and provides a structured approach to identify gaps and prioritize actions for health security.	Joint external evaluation tool has five levels of community engagement and two deal with mapping. <ul style="list-style-type: none"> • Level 3: communities co-design emergency response initiatives; stakeholders are mapped but engaged ad hoc; feedback mechanisms inform responses; coordination exists across all levels. • Level 4: communities co-design emergency responses; stakeholders are systematically engaged; responders trained with surge capacity; feedback and socio-behavioural data collected and analysed at all levels.
<i>Strengthening the global architecture for health emergency prevention, preparedness, response and resilience (4)</i>	The new global architecture provides an integrated framework for countries and partners to coordinate efforts, strengthen capacities and align investments to improve readiness for future emergencies.	The subsystem on community protection includes the priority: development of capacities for community health emergency risk management, including community risk assessment, vulnerability and capacity mapping, risk management, emergency planning and simulations.

Table A4.1. (Contd.)

Framework	Framework overview	Community mapping reference summarized
Disaster risk reduction		
<i>The Sendai Framework for Disaster Risk Reduction 2015–2030 (5)</i>	This framework serves as a guide for governments and stakeholders to develop inclusive, multi-hazard strategies that strengthen resilience and reduce disaster risks.	Priority 3: Investing in Disaster Risk Reduction for Resilience promotes a people-centred, multi-hazard and inclusive approach to disaster risk reduction. According to this framework, governments should map and engage diverse stakeholders – including community leaders, civil society and vulnerable groups – in designing and implementing policies and plans. The framework emphasizes collaboration across public and private sectors, academia and communities to strengthen social safety nets and integrate community involvement into resilience-building and post-disaster recovery.

Table A4.2. Community mapping in WHO frameworks

Framework	Framework overview	Community mapping reference summarized
Strategic documents		
<i>Fourteenth General Programme of Work (6)</i>	The Fourteenth General Programme of Work provides a strategic framework for countries and partners to align health priorities, monitor progress toward emergency preparedness, and guide investments that strengthen community engagement and resilience.	Under the priority, Prevent, mitigate and prepare for emergencies, it states, “It recognizes communities as primary responders that are often on the frontline of climate-related and other risks and works to ensure that they are knowledgeable, equipped and empowered to protect themselves, their families and their livelihoods.”
<i>Second European Programme of Work 2026–2030 (7)</i>	The Second European Programme of Work provides a roadmap for countries in the Region to implement strategic priorities, including health security.	Under health security, the Second European Programme of Work names supporting “governments in building policies, systems and cultures that enable social participation and community partnerships to improve trust, acceptance and the reach of public health services during emergencies. This includes identifying at-risk groups through community mapping and strengthening risk communication, engagement, behavioural insights and the response to mis- and disinformation.”

Table A4.2. (Contd.)

Framework	Framework overview	Community mapping reference summarized
Preparedness		
<i>Multisectoral preparedness coordination framework: best practices, case studies and key elements of advancing multisectoral coordination for health emergency preparedness and health security (8).</i>	This framework helps countries coordinate across sectors to develop integrated preparedness plans.	Within the section on stakeholder mapping and analysis, the document says this task can be done using a transparent, criteria-based process to identify and select relevant public, private, and non-State actors for multisectoral preparedness coordination. Mapping helps determine roles, contributions and incentives for engagement, ensuring inclusivity while maintaining functionality. The process can be iterative, adding or removing stakeholders as needed, and may include creating subgroups for specific sectors or topics.
<i>Framework for strengthening health emergency preparedness in cities and urban settings (9)</i>	This Framework helps local authorities and partners identify and map vulnerable populations, engage community groups, and integrate gender-sensitive approaches into preparedness and response planning for urban settings.	Under the section Mapping vulnerabilities, the document states that timely mapping of vulnerable subpopulations is critical to effective emergency response. Local authorities, being closest to communities, play a key role in identifying who is most at risk and how to reach them. Entry points include schools, clubs, women's groups and other established networks. Collaboration among local government, private sector, neighbourhood leaders, nongovernmental organizations, civil society organizations and community-based organizations ensures comprehensive coverage. Priority groups include refugees, migrants, displaced persons, children, older adults, people with comorbidities, marginalized groups and those facing language or social barriers. Actions should focus on needs assessments and vulnerability mapping to inform preparedness and response plans, with gender considerations mainstreamed throughout.
<i>Strategy and action plan on health emergency preparedness, response and resilience in the WHO European Region (Preparedness 2.0) (10)</i>	This five-year regional framework aims to strengthen country capacities to prepare for, respond to and recover from health emergencies, based on lessons learned from recent crises like the coronavirus disease pandemic.	Under Strategic area 2: Community resilience and protection, the document includes actions for Member States, such as the systematic mapping of community infrastructure, resources, social networks and vulnerabilities to leverage assets and strengthen resilience in the event of an emergency.
Disasters		
<i>Health emergency and disaster risk management framework (11)</i>	This framework provides ministries of health and partners with a comprehensive approach to integrate risk management into health systems, guiding policy development and planning.	Within the section on community capacities, the document states that engaging communities in risk assessments and preparedness planning is essential for effective health emergency and disaster risk management. Local actors – including civil society, health workers and the private sector – play a critical role in hazard identification, emergency response and recovery. Their involvement ensures context-specific, culturally appropriate and cost-effective strategies that strengthen resilience.

Table A4.3. Community mapping in IFRC frameworks

Framework	Framework overview	CEAa reference
Health and care		
<i>IFRC Health and Care Framework 2030 (12)</i>	One of the enablers in this Framework is the use of digital solutions and data to strengthen health systems, improve service delivery and enhance decision-making for better health outcomes.	CEA is a core part of the IFRC’s health and care approach, ensuring that communities are at the centre of programming. By systematically listening, engaging, and communicating with people, National Societies can support communities in shaping sustainable changes on their own terms. CEA involves understanding diverse needs, acting on feedback, and ensuring inclusive participation in decision-making, leading to more effective and accountable interventions. The IFRC is also committed to data-driven, evidence-based programming to enhance impact, accountability, and effectiveness. By adopting sector-wide standards, working with academic partners on research, and investing in data tools and monitoring mechanisms, the IFRC ensures quality interventions that uphold the ‘do no harm’ principle. A strong focus on data and accountability is complemented by knowledge-sharing and capacity-building across IFRC and National Societies, particularly in health and water, sanitation and hygiene sectors, to improve programme quality and scalability.
Mental health and psychosocial support		
<i>IFRC Reference Centre for Psychosocial Support: Strategic Operational Framework 2023 (13)</i>	The IFRC’s mental health and psychosocial support framework/eight policy statements, which guide the Movement’s work in providing mental health and psychosocial support:	The mental health and psychosocial support framework has three related policy statements. “3. Recognise the resilience, participation and diversity of people in all mental health and psychosocial activities. 4. Ensure protection of safety, dignity and rights 5. Address stigma, exclusion and discrimination.”
Climate		
<i>Climate Action Road Map for Europe and Central Asia (14)</i>	The roadmap has two relevant pathways: Pathway A: Mobilize and grow urgent climate and environmental action Pathway C: Facilitate Locally Led Adaptation at scale	Pathway A: Mobilize and grow urgent climate and environmental action, states “Mobilizing our networks to take urgent climate and environmental action, with a focus on youth-led climate action and advocacy. This includes awareness raising of the humanitarian impacts of climate and environmental change, supporting anticipatory action through Early Warning and Early Action initiatives, and simplified Early Action Protocols for climate hazards, and integrating CEA and Protection, Gender and Inclusion activities.” Pathway C: Facilitate Locally Led Adaptation at scale states “Actions towards this include developing multi-year climate strategies, proposals for accessing climate adaptation funding sources, as well as facilitating Enhanced Vulnerability and Capacity Assessments to strengthen community resilience to climate and environmental changes based on local knowledge, risk perceptions and solutions.”

^a Community Engagement and Accountability

Table A4.3. (Contd.)

Framework	Framework overview	CEAa reference
Strategic documents		
<p><i>IFRC National Society Preparedness Framework (15)</i></p>	<p>This Framework is a guidance tool that helps Red Cross and Red Crescent National Societies strengthen their readiness to respond effectively to disasters and crises by building capacities, systems, and partnerships for timely and coordinated action</p>	<p>The framework contains: Strategic Objective 1, which “contributes to investment in local preparedness, anticipation, response and recovery by pinpointing priority areas and resources.”</p> <p>Within the IFRC National Society Preparedness framework, community mapping is a participatory process that strengthens preparedness across the Disaster Risk Management continuum. It provides localized data that helps National Societies align plans with Red Cross Red Crescent strategies and external frameworks, ensuring coordination and resource allocation. By identifying vulnerabilities and capacities, mapping informs preparedness and anticipatory action and supports evidence-based planning. It also engages volunteers, youth and communities in data collection, reinforcing trust and mobilization.</p> <p>Mapping operationalizes the framework’s CEA commitments by embedding participation and inclusion, ensuring that community voices shape preparedness and recovery plans. As a cross-cutting tool, it offers actionable insights for programme design and service delivery, clarifies triggers for anticipatory action and enables rapid mobilization of local resources during recovery. Ultimately, mapping ensures that preparedness planning is inclusive, context-specific and community-driven.</p>
Migration		
<p><i>IFRC Integration and Inclusion Framework — Europe and Central Asia (16)</i></p>	<p>This Framework provides guidance and a common approach for Red Cross and Red Crescent National Societies to design, implement and monitor initiatives that promote the integration and inclusion of migrants and people in vulnerable situations.</p>	<p>The document contains Pillar 4: Accountability and Meaningful Participation. This pillar recognizes communities as equal partners, valuing their diverse needs, priorities, preferences and capacities in shaping effective responses. Meaningful participation in migration work involves migrants as active contributors to policies and programmes that impact their lives directly. In policy-making and programming, success is contingent upon the direct participation of migrants, which enhances transparency, decision-making efficiency, and programme relevance.</p>

Table A4.4. UNICEF frameworks

Framework	Framework overview	Social and behaviour change (SBC)/risk communication and community engagement (RCCE)/AAP reference
Humanitarian emergencies		
<i>UNICEF Guidance Handbook in L1, L2 and L3 Emergencies (17)</i>	This document provides a structured framework for coordinating, scaling and delivering timely, child-centred humanitarian responses based on the severity and complexity of a crisis.	SBC is highlighted in community engagement strategies, health promotion, and behaviour-driven interventions to enhance emergency response effectiveness. RCCE is integrated into public health responses, outbreak control and disaster preparedness to ensure timely and accurate information reaches affected populations. AAP is emphasized through feedback mechanisms, participatory approaches and inclusion of community voices in decision-making across all levels of emergency response.
<i>Core Commitments for Children in Humanitarian Action (18)</i>	These commitments are UNICEF's primary framework guiding humanitarian response. They establish clear benchmarks for life-saving assistance, protection and resilience-building across multiple sectors	RCCE is emphasized for ensuring timely, culturally appropriate and accessible communication in emergencies. This is particularly relevant in the European Region, where language diversity and information gaps can hinder response efforts. SBC strategies are leveraged to promote protective behaviours, such as vaccination uptake, hygiene practices and positive coping mechanisms in crises. AAP is a fundamental principle of these commitments, ensuring that communities have a voice in response efforts, can provide feedback and influence decision-making processes.
Public health emergencies		
<i>Operational Response Framework for Public Health Emergencies (19)</i>	Provides a structured approach to preventing, preparing for and responding to health crises, ensuring a coordinated, equity-driven and child-focused response across sectors.	SBC is central to promoting protective health behaviours, increasing vaccine acceptance and addressing harmful practices during public health emergencies. RCCE ensures timely, transparent and accessible information-sharing, empowering communities to make informed health decisions and combat misinformation. RCCE ensures timely, transparent and accessible information-sharing, empowering communities to make informed health decisions and combat misinformation.

Table A4.4. (Contd.)

Framework	Framework overview	Social and behaviour change (SBC)/risk communication and community engagement (RCCE)/AAP reference
Social and behavioural change in emergencies		
<i>Community Engagement in Humanitarian Action (CHAT) Toolkit: Updated version (20)</i>	The Toolkit is a practical resource that provides guidance, tools and best practices to effectively engage communities before, during and after emergencies, ensuring that humanitarian response is inclusive, participatory and accountable.	The toolkit refers to the implementation of SBC and RCCE in emergencies.
<i>Minimum Quality Standards and Indicators for Community Engagement (21)</i>	The document provides a set of benchmarks to ensure that community engagement efforts are systematic, evidence-based and effectively integrated across humanitarian and development programming to enhance participation, trust and local ownership.	<p>SBC is incorporated to ensure that engagement efforts drive sustained positive shifts in behaviours, social norms and practices within communities.</p> <p>RCCE is emphasized in facilitating transparent, two-way communication to ensure timely, actionable and culturally appropriate information-sharing in emergencies and development settings.</p> <p>AAP is embedded throughout, ensuring that communities have mechanisms to provide feedback, influence decision-making and actively participate in shaping programmes that affect their well-being.</p>
Mental health and psychosocial support		
<i>Global multisectoral operational framework for mental health and psychosocial support of children, adolescents and caregivers across settings (22)</i>	Provides a structured approach to integrating mental health and psychosocial support (MHPSS) into humanitarian and development programmes, ensuring child-centred, family-focused and community-based support across multiple sectors.	<p>SBC is emphasized in promoting positive coping strategies, reducing stigma around mental health, and fostering supportive environments for children and caregivers.</p> <p>RCCE is crucial in raising awareness about available MHPSS services, combating misinformation and ensuring communities have access to reliable mental health information.</p> <p>AAP ensures that children, adolescents and caregivers have a voice in shaping MHPSS interventions, receive culturally appropriate services and can provide feedback to improve mental health support systems.</p>
Measuring and evaluation in emergencies		
<i>M&E in Emergencies. Measuring change in times of crises (23)</i>	This document presents a set of foundational actions with the potential to advance a measurable people-centred agenda. It guides implementing programmes so that they can engage and empower communities as well as influence attitudes, values and collective actions adapted to specific humanitarian contexts.	<p>This document explains how community mapping:</p> <ul style="list-style-type: none"> • promotes evidence-based planning by using community mapping data to inform decisions; • ensures people-centred approaches by identifying local priorities and influencers through mapping; • supports anticipatory and adaptive action by visualizing risks and resources for emergency planning; • strengthens accountability and participation by involving communities in data collection and analysis; and • improves coordination among actors by providing shared, localized information for emergency response.

Notes: MHPSS: mental health and psychosocial support; RCCE: risk communication and community engagement; SBC: social and behaviour change; AAP: Accountability to Affected populations.

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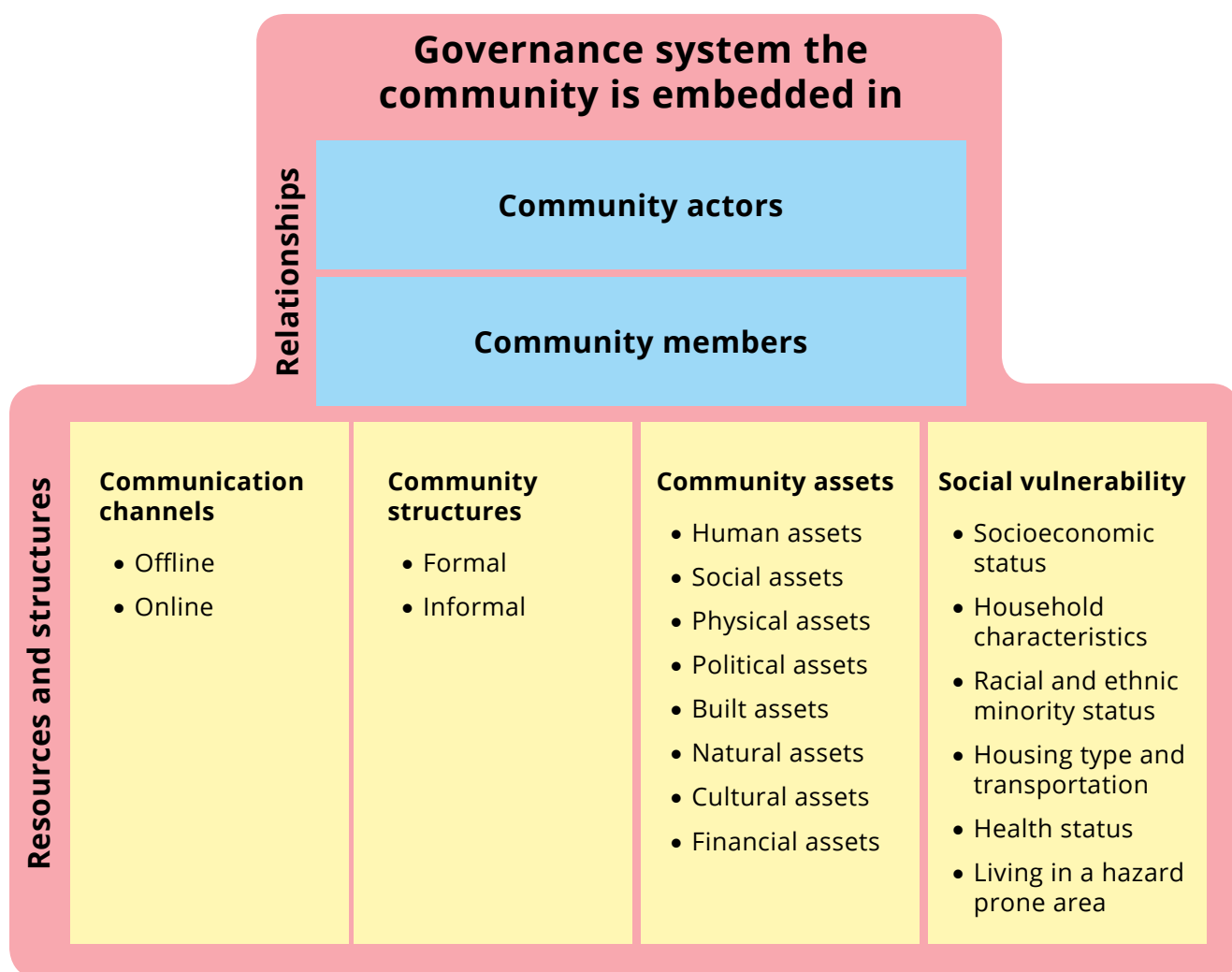


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Annex 5. Analytical framework for community mapping

The work in community engagement detailed above (see section Organizational examples of community mapping in health emergencies in the introduction) led to the development of the following analytical framework (Fig. A5.1) to help identify key elements behind understanding communities. The analytical framework illustrates the key components that underpin community mapping, providing a basis for designing actions or adapting tools in a structured and evidence-informed way. An explanation of each of the framework’s components is provided below.

Fig. A5.1. Analytical model for community mapping



Source: Authors

A5.1. Governance system the community is embedded in

Inclusive governance that involves community groups in decision-making is crucial for effective community engagement and emergency response. Throughout all emergency stages – preparedness, readiness, response and recovery – countries can establish mechanisms to embed communities in decision-making and allocate resources to community engagement. This approach empowers people, promotes trust in government, and ensures services reach everyone. Community engagement is key for public acceptance of preventative measures and successful emergency responses. Designing, delivering and measuring interventions together fosters accountability and

sustainable solutions. Countries with formal community engagement can leverage established communication channels and respond more efficiently to health emergencies.

Working with community influencers (1), such as civil society organizations, youth, religious leaders, health workers, journalists and community leaders is vital. These trusted influencers provide key insights and facilitate effective communication during emergencies, helping to convey health information in a relevant and appropriate manner to their communities and can help to communicate health information and advice in a way that is appropriate and relevant.

A5.2. Community mapping: relationships

Community actors: these include formal and informal leaders, organizations and institutions that influence community dynamics, such as local government officials, religious leaders, health workers and community-based organizations.

Community members: these individuals reside within the community. Understanding their demographics, needs, perceptions, beliefs and vulnerabilities is essential for tailoring culturally appropriate and effective interventions (2).

A5.3. Community mapping: resources and structures

Communication channels: communities have varying modes of communication, from traditional channels such as the press or institutional websites to direct individual channels on social media or within communities. Understanding these modes helps tailor community mapping approaches effectively, using preferred and trusted channels such as face-to-face meetings, direct mail, broadcast mediums, social media and online forums. A comprehensive

strategy blends these channels based on community preferences and the type of information shared. Hotlines and information centres can provide urgent updates, while social platforms encourage interactive feedback. Involving community leaders, youth-led or women-led platforms, and faith-based organizations enhances trust and broadens reach. Personalized house-to-house visits are useful for sensitive topics, ensuring inclusivity despite being resource-intensive.

Community structure: when making emergency preparedness and response plans, health authorities should consider both formal and informal community structures. Formal structures, like schools or advisory boards, have set roles and goals, while informal structures are social networks based on personal contacts, such as community-led boards or committees (3). Research shows that people are more influenced by regular interactions with individuals, like a doctor who is also a friend and neighbour, than by formal structures. These informal relationships can greatly affect community behaviour.

Understanding both types of structures is crucial for tailoring plans, enhancing trust and effectiveness of community engagement strategies. This understanding leverages community-specific dynamics to

manage risks and misinformation effectively, ensuring interventions are tailored to the community's unique dynamics.

Community assets: one of the goals of community empowerment is for communities to be able to recognize their gaps and assets, and unlock resources to support emergency response. Some community assets can belong to multiple categories because they serve different functions at once. Academics have identified categories of community assets including (4,5):

- **human assets:** individuals are empowered to realize and use their abilities to build and transform the community (such as informal and formal leaders and health workers);
- **social assets:** community-based organizations providing services to communities;

- **physical assets:** community gardens, sports facilities, youth clubs, parks, local nature areas, parking lots, playgrounds, foot and cycling paths and picnic areas;
- **political assets:** community services that make life better for some or all community members, such as public transportation, early childhood education centres or community recycling facilities;
- **built assets:** infrastructure such as hospitals, schools, churches, libraries, unused buildings, housing, factories, roads, community centres, power systems, water and sewer systems, telecommunications infrastructure and transportation systems, among others;
- **natural assets:** the landscape, air, water, wind, soil and biodiversity of plants and animals;
- **cultural assets:** ethnic, racial and religious diversity; cultural traditions and celebrations, museums, cultural centres, art galleries and festivals; and

- **financial assets:** grants, dedicated budgets for community resilience, financial mechanisms for emergencies, donations from local businesses or banks, financial support from the government and financial support from international donors.

Social vulnerability: vulnerability is shaped by historical, political, cultural, institutional and natural resource processes, with examples including living in disaster-prone areas, poor housing, ill-health, political tensions or a lack of local institutions. The Centers for Disease Control and Prevention's Social Vulnerability Index (6) helps identify and support communities at risk during public health emergencies based on factors such as socioeconomic status, household characteristics, minority status and housing type. Key domains of the index include:

- **socioeconomic status:** income, unemployment, housing cost burden, education and health insurance status;

- **household characteristics:** age, disability, single-parent households and language proficiency;
- **minority status:** racial and ethnic backgrounds; and
- **housing and transportation:** housing types, crowding, vehicle access and group quarters.

Cross-sectoral collaboration with social services, education and housing sectors provides a holistic

understanding of vulnerabilities. Incorporating health status and living in hazard-prone areas into the analytical framework helps identify at-risk communities, tailor risk communication, enhance community engagement and manage misinformation. Prioritizing resources and interventions in high-risk areas and involving marginalized communities in planning enhances resilience and ensures effective emergency preparedness and response.

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