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United Kingdom Humanitarian Innovation Hub

Human-Centred Technology Design in Humanitarian Action

A guide to co-creating digital tools with crisis-affected people

Created by
CLEAR Global
For United Kingdom Humanitarian Innovation Hub
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Preface

This guide is part of an initiative funded by the UK Humanitarian Innovation Hub (UKHIH) to establish participatory ways of developing digital technology with a range of people in crisis-affected communities, so that it can be used easily and effectively as a humanitarian tool. A human-centred and language-inclusive design process makes partners of people that humanitarians serve. Making people partners in developing technology is even more important when funding is restricted, to ensure that humanitarian interventions are effective and sustainable.

This guide should be used in conjunction with Human-Centred Technology Design in Humanitarian Action: A deep dive into the fundamentals of co-creating digital tools with crisis-affected people that provides practical tips on cross-cutting topics relevant to the different phases of the HCD process described in this document.

The research to inform both guides took place between January and March 2025, including a desk review of literature and stakeholder mapping. CLEAR Global conducted remote interviews with key staff in large international NGOs, UN agencies, local non-profit organisations, international non-profit organisations; subject matter experts such as technology providers focused on delivering solutions in development aid and humanitarian contexts; human-centred design practitioners with a social impact focus, and relevant research agencies. The key staff provided a deeper understanding of their organisations' experience in using digital technology in humanitarian settings, their approach to community engagement, what processes they apply when delivering digital tools, and to what extent these processes are participatory. They described challenges and gaps their organisations face when designing and using new tools for humanitarian action.

CLEAR Global spoke with 159 people in Borno and Adamawa States in northeast Nigeria in focus group discussions and ideation workshops. In these participatory sessions crisis-affected people shared their perspectives and concerns regarding the use of new digital technology in northeast Nigeria and whether and how they want to participate in the choice, design, deployment and evaluation of humanitarian technology applications and platforms.

While this guide features research from Nigeria, its core approaches can be used worldwide with adaptations for local circumstances and infrastructure and offer a framework for designing ethical, effective, and human-centred technology in all humanitarian responses.

INTRODUCTION

Introduction

Digital technology is not an end in itself: it is one tool among many for meeting urgent needs and supporting long-term recovery from humanitarian crises. But it can be a powerful tool. Making a regular practice of exploring innovative technological solutions to problems and gaps in humanitarian responses offers immense potential for improved and more sustainable service delivery, even as a crisis evolves into a longer-term recovery phase. To achieve the most positive impact possible, these solutions must be co-created with the people they aim to serve. This collaboration requires:

- **meaningful, ongoing engagement** rather than one-off consultations;
- **flexible, iterative processes** that can adapt to rapidly changing contexts;
- **A holistic view** of digital technology as one element in the humanitarian response.

By following the principles, processes, and practical tips in this guide, humanitarian practitioners can both leverage digital technology for better aid and strengthen accountability, trust, and equity.

What is this guide for?

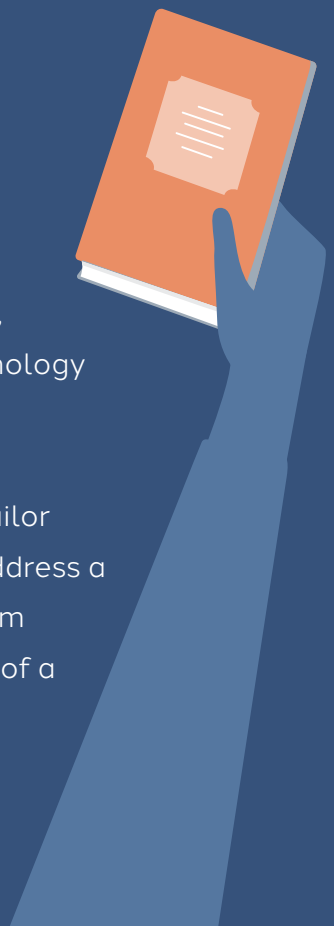
Developing digital technology can seem an intimidating endeavour to non-technical experts. Similarly, working within the parameters and principles of a humanitarian response can seem very alien to technology specialists. This guide aims to bring those two worlds together in a practical and effective process – and adds a third aspect: using human-centred design (HCD) techniques to partner with people caught in a crisis and co-create technology-based solutions to problems. Recognising people as the best experts on their own lives and using that knowledge to develop apps, bots and other digital tools should ensure that these are:

- more accessible to a range of people,
- more relevant to their needs,
- safer, and
- more trusted.

Who is this guide for?

This guide has been designed for humanitarian practitioners, donors commissioning tech-focused programmes, and technology providers.

The guide can help humanitarians to think through how to tailor community engagement and participatory approaches to address a humanitarian challenge – from the earliest stages of problem identification, through to the development and deployment of a digital solution. For readers from an HCD or technology background, this guide offers tips on how to adapt those principles to a humanitarian response.



How to use this guide

The guide is organised into three main sections.

The basics: This section outlines key considerations around the responsible development and use of technology in humanitarian settings, and participatory approaches for achieving that. We recommend you read this chapter first.

Examples: This section provides three examples of how technology may solve some problems while also introducing critical new challenges. Refer to this for insights into some of the real-world risks that human-centred design can help mitigate in humanitarian use of technology.

Human-centred design: This section is not a complete or a conventional guide to HCD; instead it summarises the phases and techniques of HCD and relates them to the context of humanitarian emergencies. Humanitarians can refer to this for insights on HCD. Those already familiar with HCD can use it to understand the practical implications of applying HCD in humanitarian action.

THE BASICS

Responsible humanitarian technology development and use

Responsible humanitarian technology development means an inclusive and participatory approach to the design, delivery and evaluation of digital solutions.

Without careful consideration, digital solutions can exclude vulnerable groups, create unintended harm, or erode trust. Research for this project identified the following principles as the basis of a responsible approach to technology in humanitarian action:

Inclusiveness: Truly inclusive solutions imply actively engaging people on their terms, understanding their diverse needs, constraints and capacities, and ensuring that marginalised and at-risk groups are valued partners.

Accessibility: Humanitarian technology should meet people where they are, removing barriers related to language, literacy, physical condition, connectivity, geography and digital skills. Accessibility should be built into every stage of technology choices, design and usage.

Relevance: Solutions must be problem-driven, not technology-driven. This requires deep engagement with people to hear how they define problems and to understand their actual needs rather than relying on assumptions. Interventions should be continuously validated by communities and adapted based on real-world conditions.

Safety: Technology use in humanitarian settings comes with significant risks. Organisations must identify, assess, and actively mitigate potential harm, including physical security risks, data protection concerns, and unintended consequences such as surveillance, exclusion, and misuse of personal information.

Trust: No matter how well a solution is designed, it will be effective only if people trust it. Building and maintaining trust requires transparency, accountability, and meaningful community participation; it is not a tick-box exercise. Once earned, it must be continuously nurtured.

By embedding these principles into technology design and use, humanitarians and technology providers can ensure technology solutions empower people affected by crises. and don't exploit them.

Further reading

Read more about the wider Principles for Digital Development (https://digitalprinciples.org/).

Also consult the companion guide: A deep dive into cross-cutting topics for responsible and participatory technology design and delivery.

Informed consent

In humanitarian contexts, informed consent is critical. Crisis-affected people are often in vulnerable situations where they cannot make free decisions for many reasons, including a fear of losing assistance if they say 'no'. Whether technology is used for data collection, biometric identification, digital cash transfers, or communication, ensuring ethical and meaningful consent is essential to protect people's rights, dignity, and safety.

Key considerations when developing consent policies and seeking informed consent

01 Understand the technology

- ✓ What data is collected in the consent process and could it identify an individual? How is the data stored and protected? How will it be processed, who will have access to it, how will it be shared and in what situations? What are the risks to individuals or the community if their data ends up with people who shouldn't have it?
- ✓ How will people interact with the technology: what devices and level of connectivity are required?

02 Understand the people affected by the crisis

- ✓ What is people's level of awareness and knowledge of technology and of the potential risks and benefits as they define them?
- ✓ What are familiar or relatable concepts that can help explain technical topics?
- ✓ What formats should be used to support a conversation around technical topics (audio, illustrations, etc.)? What languages should this take place in, using which words and concepts?
- ✓ Which individuals or marginalised groups may struggle more? Are certain groups of people perhaps wrongly assumed to be unfamiliar with digital technology?
- ✓ Who in a community may have experience of using such applications? Make sure to include adolescents, who are often left out of design activities.
- ✓ How do people interact with technology – is sharing phones a common practice, particularly for women? If so, how does that sharing work?

03 Communicate

Explain the risks of using the technology being considered, focusing on personal identifiable information. Describe who is intended to use the data, why and for what purpose, and the measures taken to protect the data from unauthorised access and misuse.

04 Validate

Before asking people for their consent, ask questions to check that they truly understand the risks and their rights regarding data, including the right to withdraw their consent.

05 Record consent

Make the consent process easy and clear, using the right language and graphics or audio where necessary.

The dangers of assuming consent. During research for this guide, CLEAR Global heard from community members that they would consent to the use of artificial intelligence (AI). Their main concerns with AI were that they would be unable to use it or that it would replace the need for human work and further exclude many people in vulnerable communities. Most of the people we talked with were unaware of other risks associated with AI, including data protection and privacy issues. Their consent to the use of AI-enabled technology would therefore not be fully informed.

This highlights the point that the process of collecting genuinely informed consent cannot be neglected in favour of other considerations. Aid organisations and their technology partners are responsible for ensuring that individuals are aware of the risks and understand what they consent to.

Ethical considerations

Before collaborating with people in crisis-affected communities, it is worth understanding some of the ethical pitfalls of digital technology – including the newest innovations, often viewed collectively as "emerging technology." (See more on this below.) Humanitarians and technology developers can avoid problems by considering the points below.

Power & decision-Making

- Who controls and benefits from these technologies?
- Digital solutions are often developed by external actors (governments, corporations, donors), sidelining local communities and the organisations working directly with them.

Dependency & sustainability

- Some digital solutions create long-term dependency on external providers instead of strengthening local capacities.
- High costs, maintenance issues, and lack of contextual adaptation can make digital solutions ineffective.

Accountability & bias

- AI-driven decision-making (for instance for predicting famine risk or allocating aid) can be opaque and biased.
- Who is accountable if an algorithm or technology causes harm?

Ethics of experimentation

- Humanitarian crises are not testing grounds, yet new technologies are often piloted in these settings without full ethical safeguards.
- There is a risk of “technological colonialism,” where solutions are imposed without local agency or oversight.

A note on emerging technologies

Emerging technologies – AI, blockchain, drones and others – have the potential to address a wide range of problems. While this makes them attractive for humanitarian use, digital solutions are only effective if they are designed around the problem, not around a particular technology. Participatory approaches start from the community's perspective on the problem in order to determine the right solution. If the right solution makes use of emerging technologies, that introduces additional complexity and risks that the intervention will need to address.

The humanitarian sector should therefore approach emerging technologies in as participatory a way as any other digital tool. That implies engaging target audiences, understanding limitations and constraints as well as opportunities, identifying risks and seeking informed consent, adapting to needs and giving communities agency in decision making. The same principles apply, whatever technology is involved.

Further reading

From promise to practice: A cross-institutional analysis of design trends, enablers and challenges in blockchain-enabled cash and voucher delivery – This study examines six pilot projects led by three prominent international NGOs across four countries to identify obstacles to innovation, adoption, and scalability that may arise in this context.

Community Crisis Intelligence (free online course) - The Kaya learning platform describes this free course as a "collection of tools and practices that combines crowdsourced data gathered from affected communities and frontline responders with artificial intelligence (AI) for more effective crisis mitigation, response or recovery." It contains four modules that take approximately 20 minutes each to complete.

Building trust in digital humanitarian action: Safe and ethical AI (HNPW 2025 panel) - Live discussion from CDAC Network's panel at HNPW Conference 2025. Brings together a number of organisations in the tech-humanitarian space who are leading on harnessing AI in a way that puts people affected by crisis at the centre of these new technological developments.

Who to involve in co-designing technology

Conduct a stakeholder analysis. For maximum inclusiveness and accountability to affected people, look beyond the "usual" entities and individuals in a community and strive to include women, people with disabilities, adolescents, and others whose voices are less often heard.

An example of stakeholder mapping

Primary stakeholder groups/individuals	Examples of current roles and roles they could play in the co-design process	Notes
Stakeholders informing the design and main participants in the process		
Crisis-affected people	Technology users: could be members of a community advisory council for technology development as well as active participants in co-design meetings and decisions.	People could be drawn from existing groups, for example, groups representing farmers, health workers and other trades. Be mindful of demographics by involving people from all age groups, women and men, residents of both rural and urban locations, and marginalised sections of society.
Community representatives / local leaders	Traditional bridges between communities and humanitarians: would continue serving as one of a number of bridges between community interests and project design. Community representatives can also share information and updates.	Formal and informal leaders, religious leaders, technology influencers. Who crisis-affected people trust must be considered in stakeholder involvement. In Nigeria and probably elsewhere, community leaders are usually men, which can limit women's involvement. Community leaders are also not universally trusted if they give family and friends preferential access to aid or involvement in important activities. They should not be the only leaders from a community involved in co-designing, implementing and evaluating digital technology.
Aid organisations/field workers from local NGOs and government service providers	Implement digital solutions in humanitarian crises.	Government staff providing services; local NGO staff working closest to people needing assistance.
Technology developers and providers	Design and develop digital solutions based on project guidelines.	Local and regional, domain experts, individuals and organisations.
Language and communication experts	Ensure language inclusiveness and effective cross-cultural communication.	Consider the diversity of languages affected people speak and understand.
Stakeholders providing strategic support, evidence and resources		
Funders	Provide financial resources and strategic oversight.	Ensure sufficient resources for a participatory development process.
Government/policy makers	Regulatory oversight and potential integration with public services.	Help with local data protection policies and alignment as needed with external policies such as the European Union's General Data Protection Regulation.
Research partners	Provide research, evaluation, and methodological support.	Experts in humanitarian technology and impact measurement.

Team expertise and partnerships

Successfully designing and deploying digital technology in humanitarian settings requires not only a diverse team that includes community members, but also partners and specialists with the necessary technical skills.

While some roles may need to be filled externally, NGO and HCD process leaders would be smart to assign a local counterpart to each regional or global specialist in order to build skills and knowledge that "lives on" locally after the external expert goes home.
The following roles can be filled as locally as possible so that people with these specialis skills also have some contextual knowledge. These specialists would support local teams with their expertise and experience, helping to translate local needs and requirements into solutions while ensuring feasibility, interoperability among computer systems and software and compliance with organisational requirements. These roles should be added only if needed and engaged on a temporary basis.

1. Human-centred design practitioner

- Facilitates the design process, guides local actors, and collects user data to inform product requirements
- Ensures people are actively involved in meetings, discussions and decisions at all stages of technology development
- Guides local teams in user research, builds capacity among team members and trains relevant staff working in communities

2. User experience and digital interaction designer

- Specialises in creating user-friendly interfaces and experiences; may be particularly important for tools that people with limited technology experience, including marginalised community members, will interact with directly

3. Technical expert

- Provides insights into feasibility, constraints, and customisation potential for different technologies being considered, including blockchain, AI and mobile platforms

Liaising with local organisations can significantly accelerate understanding, help in trust building, and ensure engagement, effective communication and other aspects of a successful project such as adoption and sustainability.

4. Local programme and technology partners

- Provide on-the-ground knowledge of cultural, linguistic, and technological norms and infrastructure
- Enable the digital tool to be customised to local needs, context and technological realities, and promote sustainability after a project ends

Budget and timelines

- Allocate **sufficient time and resources** for thorough engagement and iterations, the right expertise, and local partnerships.
- Ensure **flexibility** in donor agreements and timelines to accommodate an adaptive design process.

PARTICIPATORY APPROACHES

Participatory approaches to humanitarian technology

People affected by crises should not be passive recipients; they must have a voice and agency throughout the design, implementation and evaluation of digital solutions.

Substantive participation by people impacted by crises is increasingly seen as vital for informed humanitarian service design and delivery. Yet community involvement is often still seen as a one-way information-sharing process. Even if it is more than that, the process is often consultative rather than transformative and gives people little influence and in-person presence when decisions are made. With digital tools now playing a larger role in humanitarian action, a **participatory and bottom-up methodology** is more essential than ever.

Level of Participation	Description	Decision-making power
Informing	Providing information to people	None (one-way communication)
Consultation	Gathering feedback to inform decision making	External decision makers hold final authority
Collaboration	Actively engaging people in implementation	External organisations still control decision making
Co-creation	People and organisations share decision making and develop solutions together	Equal decision-making power between people and organisations
Empowerment	People affected by a crisis lead and manage the intervention	Full control by affected people

Human-centred design – key principles and mindset

HCD is grounded in the idea that products of any sort – including digital tools – are most effective when they are guided by the people they are meant to serve, rather than forcing people to adapt to a preconceived solution.

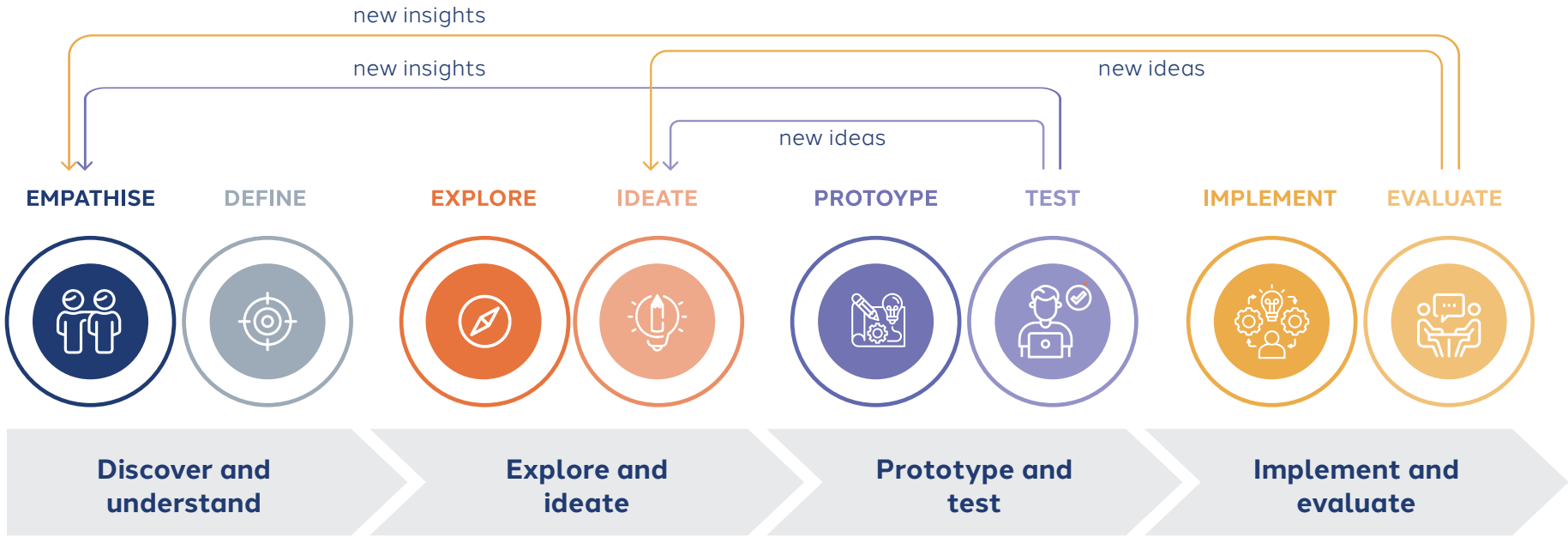
HCD is a set of participatory principles that find solutions to problems through learning, improving and adapting in a highly participatory process that involves the intended users. In a constantly evolving environment, HCD can help maintain a focus on inclusive solutions continuously informed by new opportunities and challenges.

While this toolkit is not a comprehensive "how-to" manual on HCD, it connects core HCD principles with real-life humanitarian constraints.

Common HCD frameworks are often structured around similar phases:

- **Discover and understand**
- **Explore and ideate**
- **Prototype and test**
- **Implement and evaluate**

The process follows an iterative cycle of learning, improving, adapting, and releasing new features to drive adoption and engagement.



Ensuring participation in an emergency. The time pressures of humanitarian action create particular challenges for how the HCD process is implemented, and call for flexibility. The first phase – understanding and empathising with the people facing a problem – may require extensive planning, especially when uncertainties are high. But that time frame can be shorter when reliable data exists on factors like connectivity, communication channels, literacy, and the languages people speak and read. In such cases, rapidly testing assumptions with users can be more efficient than conducting additional research.

What level of participation is possible and appropriate depends on the nature and phase of the emergency. In protracted crises or recovery phases, there is probably more time and opportunity to engage affected people in collaboration, co-creation, and full empowerment. In a rapid-onset emergency like an earthquake or fast-escalating conflict, immediate life-saving action takes priority, and participation may initially be limited to providing information.

However, even in rapid-onset emergencies humanitarians should aim to integrate community participation as early as possible and transition to higher levels of participation as the situation stabilizes. The approach must remain flexible and context-sensitive, balancing urgent activities like search-and-rescue operations after a disaster with the long-term goal of community leadership and decision making.

Discover and understand

Keep an open mind: digital technology might not always be the best or only solution. In this phase, focus on understanding people's problems, goals and aspirations. Look for constraints and opportunities rather than settling on a solution independently of the collaborative process.

Objective: Build a foundational understanding of people's actual needs, challenges, and capabilities.

Activities

User research

Conduct focus group discussions, key informant interviews, co-creation sessions and observational research (where feasible).

Needs assessment

Determine whether existing assessments capture relevant technology-related information (access to devices, digital skills and confidence, connectivity). If not, gather additional data where possible.

Stakeholder analysis

Identify formal and informal leaders, existing community structures such as disability, women's and protection committees, influencers, and gatekeepers.

Information needs

Ask people during community consultations what information they need on the options and associated risks. Clarify why the consultation is happening, how findings will be used, and when participants will receive updates.

Considerations in an emergency

Discover and understand

- ✓ What challenges do people face in accessing services they are eligible to receive?
  - Which specific sections of the population are excluded? Consider young people, women and girls, older adults, people with disabilities, minorities and other marginalised groups.
  - Ask people which languages they speak, read and prefer for communication with aid providers. It is not uncommon for people to prefer different languages depending upon whether they are speaking, reading, or writing.
  - What challenges do humanitarians face in providing services and reaching the people they aim to serve?
- ✓ What access to digital technology do people have, including electronic devices, the Internet, electricity and money to pay for these items?
- ✓ What applications are people already using?
  - What digital tools do people use to communicate with aid providers? What digital tools, communication channels and information sources do they avoid using and why?
  - Do people know how to check whether information they find online is accurate? Does the humanitarian response have a process for monitoring and responding to rumours?
- ✓ How do people feel about using digital technology?
  - What do they dislike about tools they use?
  - What is the level of trust and scepticism towards digital technology and why?
- ✓ What value would digital technology bring compared to non-digital interventions?
- ✓ If the direct or indirect users of any solution may include humanitarian staff, understanding their challenges, preferences and technology use is also important.

Explore and ideate

Start thinking about solutions to the problems identified. Allow a creative process at first to support innovative thinking.

Objective: Translate research findings into actionable problem statements and potential solutions.

Capacity building or sensitisation sessions might be needed at this stage to ensure communities understand the possibilities and risks of digital solutions.

Activities

Define the problem

Clearly articulate what problem the digital solution aims to address, who faces it, and why digital technology might help.

Ideation sessions

Brainstorm as many ideas as possible with tools like user personas and journey mapping, then agree on a few relevant and feasible solutions to develop further.

Risk assessment

Consider data privacy, security, feasibility, and potential harm.

Participation strategy

Discuss with people how they want to be involved in subsequent phases – testing, feedback loops, monitoring, communication, etc.

Considerations in an emergency

Explore and ideate

- ✓ Invite diverse groups of people to ideation sessions and ensure they feel safe and comfortable to participate.
    - Consider whether separate sessions are needed for women and men to encourage trust and more candid sharing of insights.
    - Make sure the venue is private, so that participants cannot be observed or overheard by others.
    - Separate sessions may also be advisable for people who are more comfortable with digital technology and those who feel less confident.
    - Don't exclude project staff, who will probably be the first point of contact for people regarding questions and concerns about the digital solution.
- ✓ Evaluate the participatory process as it was initially designed. It may need adapting now you have more information and a better understanding of the challenges that crisis-affected people face.
- ✓ What data protection policies are applicable and required in this location? Identify what will be required and the implications for the digital solution.
- ✓ What is the best strategy for encouraging adoption? Who are the influencers, the formal and informal leaders, that need to be involved in this process?
- ✓ Explore options for uptake and relevance, for example through linking to existing platforms.
- ✓ Explore options for inclusion and accessibility, for example voice-based technology to include women and other marginalised groups. This implies going beyond the influencers and talking to representatives of different groups.

Prototype and test

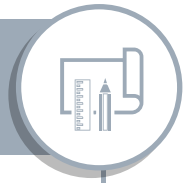
Prototyping is about learning, not just building. Expect multiple iterations. Prototyping and testing is an opportunity to discover challenges and opportunities that were not explicitly articulated in the earlier stages of data collection. When individuals and groups are presented with something tangible, their feedback will also be more actionable.

Objective: Develop early versions of the solution (prototypes) and gather feedback from users. A prototype can range from a simple mockup to interactive screens to more functional implementation simulating a system. Identifying improvements and necessary design adaptation early before a full product or service is implemented allows substantial savings on both budget and time.

Ethical considerations: Ensure transparency about data use and build consent processes into the prototyping.

Activities

Scope the product or service



With community input, define which features are essential to improve assistance and services and which are desirable.

Iterative prototyping

Start small, with mock-ups or simplified prototypes that can be tested quickly.

User testing

Present prototypes for input on usability, language, content and overall experience.

Integrate feedback

Refine designs based on the test results. This might include reworking user interfaces, adjusting language, or adding or removing features.

Considerations in an emergency

- ✓ Is the aim to provide one digital solution for all groups or different channels of communication using non-, low- and high-tech solutions so that everyone is included?
- ✓ Prototyping is an opportunity to explore different ideas and present them to the target audiences to evaluate.
- ✓ This is the stage where assumptions can be made and tested for accuracy.
- ✓ Can inclusion be built in phases, first onboarding people with lower barriers to access while making preparation for others?
- ✓ Can community members with more experience of digital technology act as trusted community champions to help reach more individuals?
- ✓ Consider providing compensation for user testing participants.
- ✓ Make sure community testers get what they need to participate fully and confidently, including:
    - A safe space during testing activities to to freely express their opinions, thoughts, ideas and concerns while interacting with the tool
    - Assurance that this is not a test of their ability to use the tool, but that the aim is to validate its usefulness and relevance to the community
    - Clear and simple instructions on the exercise in their own language, verbally if needed
    - Assurance that their feedback will not in any way affect their right to receive aid
    - Engagement on their terms, whether that relates to the time of the day, location or frequency of their input
    - Information on the next steps once all feedback is collected, ideally with updates on which changes are made, which are not and why

Implement and evaluate

Launching the tool in communities is a milestone that requires close monitoring and continuous evaluation, including from users' perspectives.

Objective: Launch the digital solution, monitor its performance in real-world conditions, collect feedback and improve.

Activities

Rollout and communication

Inform and train relevant groups, humanitarian staff, and local partners.

Monitoring and feedback loops

Track user adoption, issues, and overall satisfaction. Share progress with the community to build trust and transparency.

Adaptation

Because humanitarian contexts change rapidly, continuously evaluate whether the tool remains relevant and addresses evolving needs.

Sustainability and handover

Work towards transferring ownership to local stakeholders. Identify champions (community members, local organisations, etc.) to maintain momentum.

Considerations in an emergency

Implement and evaluate

- ✓ Provide clear, informative and validated user guidance, in the right language and format (plain language, in the languages and formats to be accessible to all).
- ✓ Identify community champions or “super users” who can support others, relay important insights, and gather feedback.
- ✓ Establish automated feedback loops and ongoing check-ins.
- ✓ Inform the community on evaluation activities and what action is taken in response.
- ✓ Define indicators and build dashboards that allow people to monitor engagement; tailor the metrics to what is interesting for users, the wider community, and external stakeholders.
- ✓ Find channels to keep people regularly informed about learning and next steps.
- ✓ Start planning a transfer of ownership to local stakeholders.
- ✓ Offer capacity building if necessary.
- ✓ Establish maintenance and support processes.
- ✓ Design promotional material and a dissemination plan in participation with community members – how to communicate, and when?

Further reading

IDEO.org: HCD pioneers offering toolkits and online courses

Here I Am: A design studio focused on digital technology and design for and with vulnerable communities, especially women and girls. Relevant resources include:

- How to respectfully co-design with hard-to-reach communities
- Can you meaningfully co-design with excluded communities remotely?
- Closing the feedback loop
- Creating digital products to include the excluded
- How to gain informed consent
- Contribution vs. comfort - are your workshops striking the right balance for participants?

Data Science Nigeria has developed AI in Hausa and Yoruba showcasing local languages and inclusive capacity-building efforts.

ICTWorks: Gender inclusivity and HCD

Nesta: The United Kingdom's innovation agency for social good has developed a Playbook on collective intelligence design. Learn more about how data-driven innovation can be designed collectively.

RAND Europe: A not-for-profit research organisation providing recommendations for humanitarian practitioners and organisations for developing and implementing emerging technology.

ALNAP: The global network for advancing humanitarian learning has published research on Technologies in Humanitarian Settings: Engagement and Inclusion of Women

ODI: Digital inclusion and technology in humanitarian response

DevEx: A short but useful article on how to apply human-centred design in humanitarian crisis

CLEAR Global: Report on the state of inclusion and exclusion for marginalised language speakers in digital humanitarian services

EXAMPLES

Examples of the benefits and risks of technology

Integrating technology in humanitarian programming is an opportunity for increased reach and efficiency. It also comes with risks and unintended outcomes, which must be proactively identified and mitigated in partnership with crisis-affected communities.

Below are a few examples of how technology may solve some problems while also introducing critical new challenges.

Example 1: Use of language AI for sensitive information and feedback

Current state

- Mobile-based service answers frequently asked questions on gender-based violence.
- Users navigate via keypad, listen to pre-recorded messages, and leave voice messages.
- Aggregated data shows popular topics, but transcription and analysis require human effort.
- The service is available offline, but the service is limited and feedback loops are slow or impossible to close.

Future state with language AI

- Fully speech-enabled and AI-powered service allows dynamic conversations.
- Users get personalised, real-time responses from the AI tool.
- Transcription and analysis are automated.

Risks and design considerations

- Shared phones: sensitive complaints or feedback and questions that should be confidential could be exposed to family members or service staff or more widely.
- AI risks: users receive inaccurate, biased, or culturally inappropriate responses.
- Consent: existing informed consent agreements may no longer apply, requiring revised processes and means for giving consent.
- Marginalised users: greater accessibility means greater responsibility to protect people's privacy.
- Service providers must find ways to inform users about new risks associated with the new technology.

Example 2: Biometric identification in humanitarian aid

Current state

- Aid distribution relies on ID cards or manual registration.
- Some marginalised groups (for example, displaced or older people) lack proper documentation, which leads to exclusion.

Future state with biometrics (for example, facial recognition, fingerprints, iris scanning)

- Faster, more accurate identification methods reduce fraud.
- Access to aid is improved because physical documents are no longer needed.

Risks and design considerations

- Storing biometric data increases the risk of misuse or surveillance.
- Crisis-affected people might need to learn about biometric tracking and its implications.
- False rejections (for example, "worn-out" fingerprints and facial recognition bias) can deny aid to people who are eligible to receive it.
- Data sharing with authorities could place internally displaced people, refugees, minority language speakers and members of other marginalised groups at risk

Example 3: Mobile apps for migrants

Current state

- Many migrants rely on word-of-mouth and social media for information on safe routes, shelters, and legal rights.
- Smugglers and traffickers exploit information and communication vacuums that leave space for rumours and misinformation to flourish. This can raise tensions between migrants and people living in host communities.
- Without verified sources of information found on mobile apps, migrants risk unsafe crossings, detention, fraud and other harm.

Future state

- Mobile apps provide real-time updates on safe routes, shelters, legal aid and other key topics.
- Migrants can access verified, trustworthy information to reduce reliance on smugglers.
- The service enables migrants to make informed decisions about their journey and their family's well-being.

Risks and design considerations

- **Surveillance and tracking risks**
  - Using the app could expose migrants to authorities, traffickers, and criminal groups if phone data is compromised.
  - Border authorities or hostile actors could monitor app activity, leading to detentions or pushbacks.
- **Device and connectivity challenges**
  - Migrants often use shared or second-hand phones; data breaches could expose their travel history and past or future routes.
  - Patchy Internet access limits real-time functionality.
- **Device theft and exploitation**
  - Phone theft may leave migrants vulnerable to identity theft or fraud.
  - Stolen phones could be used to track family members or blackmail individuals, especially if sensitive information is stored.
  - Traffickers could use stolen phones to extort money from families back home and threaten harm if their demands are not met.
- **Safety in emergency situations**
  - If a migrant is stopped or detained, having the app on their phone could raise suspicion or place them at risk.
  - Some apps require the user to create an identifiable profile that could be used against a migrant.
- **Digital understanding and trust**
  - Migrants may be uninformed about data privacy risks and assume the app does not record their identity.
  - If the app is linked to a government or large unpopular organisation, some migrants may distrust and avoid using it.

Further reading

Guidelines on ethical AI and data security:

https://www.icrc.org/en/publication/building-responsible-humanitarian-approach-icrcs-policy-artificial-intelligence

https://www.icrc.org/en/data-protection-humanitarian-action-handbook

Use of biometrics and safeguarding policies:

https://www.icrc.org/en/document/icrc-biometrics-policy

https://policy-practice.oxfam.org/resources/biometrics-in-the-humanitarian-sector-620454

Potential risks of using mobile technology to support migrants:

https://www.migrationpolicy.org/article/digital-litter-downside-using-technology-help-refugees

Community engagement and AI:

https://www.cdacnetwork.org/news/why-community-engagement-is-the-smart-strategy-for-ai-in-humanitarian-response

Opportunities for emerging technology:

https://www.unocha.org/publications/report/world/digital-promise-frontline-practice-new-and-emerging-technologies-humanitarian-action

How CLEAR Global can help

CLEAR Global's mission is to help people get vital information and be heard, whatever language they speak. We help our partner organisations to listen to and communicate effectively with the communities they serve. We translate messages and documents into local languages, support audio translations and pictorial information, train staff and volunteers, and advise on two-way communication. We also work with partners to field test and revise materials to improve comprehension and impact, and to develop language technology solutions that work for communities. This work is informed by research, language mapping and assessments of target populations' communication needs. We also provide training to support effective humanitarian communication (topics include humanitarian interpreting, communication in emergencies, and plain language). For more information, visit our website or contact us at info@clearglobal.org.

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