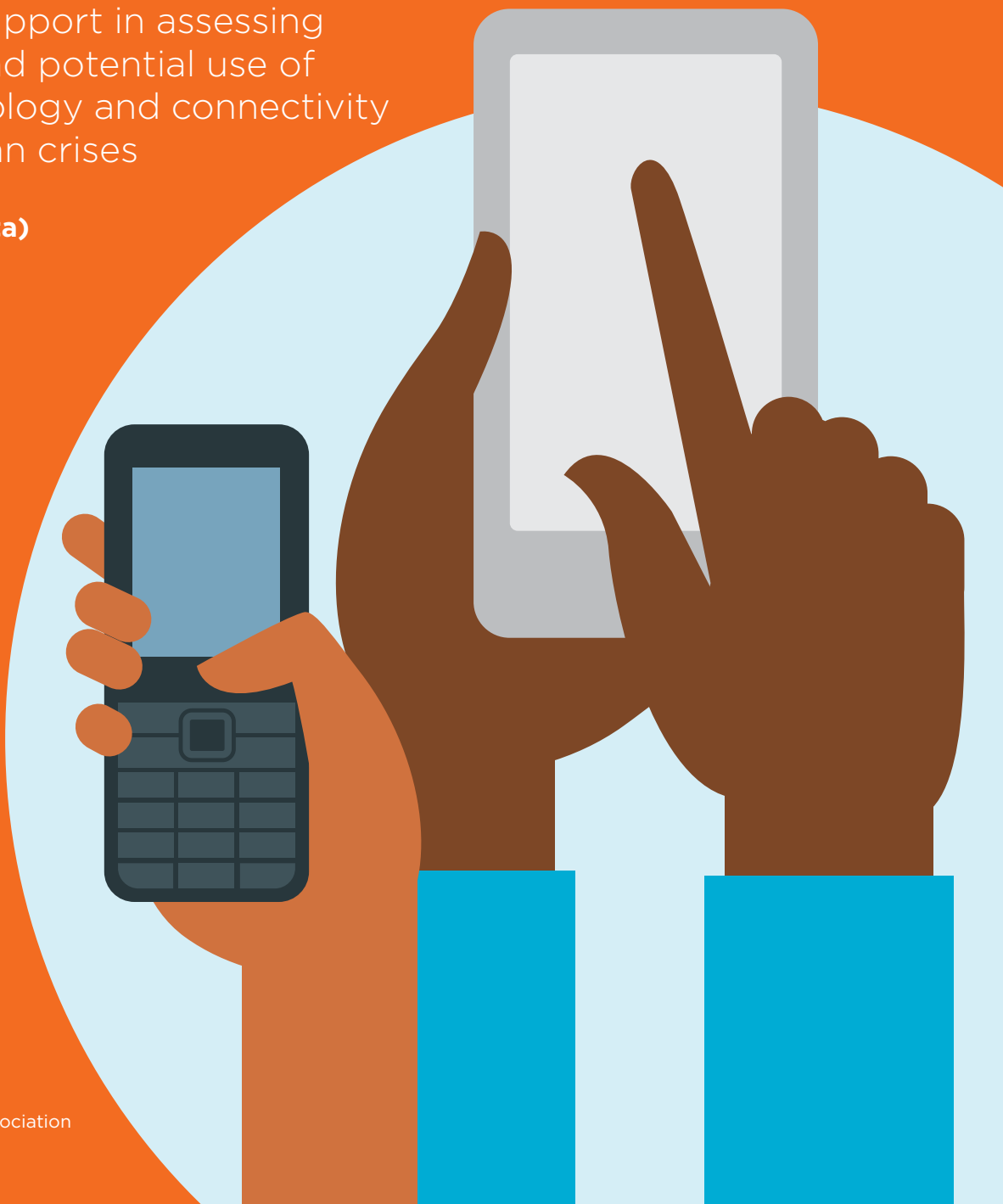
Overview Report

Humanitarian Connectivity Needs and Usage Assessment

A toolkit to support in assessing the current and potential use of mobile technology and connectivity in humanitarian crises

January 2021 (Beta)



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For more information please visit our website: **www.reach-initiative.org**.

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The Emergency Telecommunications Cluster (ETC) is a global network of organizations that work together to provide shared communications services in humanitarian emergencies. The ETC is one of the 11 clusters designated by the Inter-Agency Standing Committee (IASC).

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The GSMA Mobile for Humanitarian Innovation programme works to accelerate the delivery and impact of digital humanitarian assistance. This will be achieved by building a learning and research agenda to inform the future of digital humanitarian response, catalysing partnerships and innovation for new digital humanitarian services, advocating for enabling policy environments, monitoring and evaluating performance, disseminating insights and profiling achievements. The programme is supported by the UK Department for International Development.

Learn more at www.gsma.com/m4h or contact us at m4h@gsma.com

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Humanitarian Connectivity Needs and Usage Assessment

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Notes

This report outlines details of the Connectivity, Needs and Usage Assessment (CoNUA) Toolkit, how it was created and what it might be used for. The full Toolkit, along with detailed guidance documentation, can be found on the GSMA website.

This is a beta version of the Toolkit. Due to the ongoing COVID-19 pandemic, it was not possible to conduct the full field testing and piloting as planned. The GSMA and REACH, with the support of ETC and others, intend to carry out the remaining work when it is safe to do so. We aim to reissue final versions of this report and Toolkit, along with a summary report of findings from a pilot, in the second half of 2021.

Throughout the Toolkit, the phrase "Toolkit user" refers to the agency or organisation using the CoNUA Toolkit to conduct an assessment. An "end-user" is an "end user of a mobile phone and related services" and refers to an individual affected by a humanitarian crisis. The closest humanitarian term is "beneficiary".

If you have questions regarding the Toolkit, have used any of the tools or intend to do so then we would love to hear from you. You can contact the GSMA team at **conua@gsma.com**

01

Introduction

Mobile technology is a powerful tool for improving the efficacy of humanitarian assistance. More and more humanitarian organisations are using mobile technology to deliver assistance, especially since the COVID-19 pandemic has reduced human interactions. As humanitarian assistance shifts to digital, there are growing calls to move beyond anecdotal accounts about mobile penetration and its use in humanitarian contexts, towards a more evidence-based understanding.

More evidence is needed to understand how people in humanitarian contexts are currently accessing and using mobile technology, and also to understand the barriers they encounter.[1] This lack of data on digital access and needs continues to be one of the key barriers to digitising humanitarian assistance on a large scale. Data is vital to adequately inform organisations about how to effectively and appropriately digitise products and services for populations of concern, in a way that leaves no one behind and does not present new risks or exacerbate existing inequities.

1. GSMA (2019). The Digital Lives of Refugees. How displaced populations use mobile phones and what gets in the way.

In recent years, there has been substantial increase in research about the role of connectivity and mobile technology in humanitarian settings. A number of landscaping studies have highlighted how mobile technology could be used in thematic areas and could engage with ongoing debates within the humanitarian sector.[2] There has also been research looking at key components of delivering connectivity as aid for various actors within the sector, including papers focussing on both government regulation[3] and partnership models.[4]

While there have been some papers that focused on the perspectives of end users,[5] *The Digital Lives of Refugees*[6] (published in 2019 by the GSMA, in partnership with UNHCR) was one of the first to provide in-depth findings for specific contexts – in this case, locations in Jordan, Rwanda and Uganda. This report provided robust data that specifically looked at how mobile technology is used in humanitarian settings. It also quantified, for the first time, key access gaps, such as the mobile gender gap[7] and mobile disability gap[8] for refugees. This report sparked considerable interest among actors in other contexts, who wanted to replicate its approach and use similar data to inform their own programming. It became clear that there was an appetite for research tools to make this replication possible.

With this in mind, the GSMA, in partnership with REACH and supported by the Emergency Telecommunications Cluster (ETC), has produced the Connectivity, Needs and Usage Assessment (CoNUA) Toolkit. The CoNUA Toolkit addresses the current evidence gap by providing tools to humanitarians and their key stakeholders to measure mobile phone access, usage, preferences and digital-skills of populations of concern in a robust and standardised manner, which will allow them to assess and provide appropriate digital humanitarian interventions.

The Toolkit supports those who are committed to using a user-centred approach to deliver humanitarian assistance. It also specifically contributes to the Grand Bargain commitment 6 – "a participation revolution" aimed at including people to make the decisions that affect their lives.[9] The Toolkit gives humanitarian responders a tangible way to engage with affected populations about their needs and find out how mobile technology and other digital services can best serve those in need.

2. GSMA (2018). Landscaping the digital humanitarian ecosystem. HPG (2019). The humanitarian 'digital divide'.
3. UNHCR (2018). Displaced & Disconnected.
4. GSMA (2020). Partnering during Crisis. UNHCR (2020). Collaborating for connectivity.
5. UNHCR (2016). Connecting Refugees. GSMA (2017). Mobile is a Lifeline.
6. GSMA (2019). The Digital Lives of Refugees.
7. GSMA (2019). Bridging the mobile gender gap for refugees.
8. GSMA (2019). Bridging the mobile disability gap in refugee settings.
9. IASC (2016) A participation revolution: include people receiving aid in making the decisions which affect their lives

1.1 What is the CoNUA Toolkit?

The GSMA is providing this Toolkit to people working in humanitarian crises to help them understand how populations affected by these crises are using mobile phones. This Toolkit has been designed to allow aid agencies to conduct similar assessments in any humanitarian context.

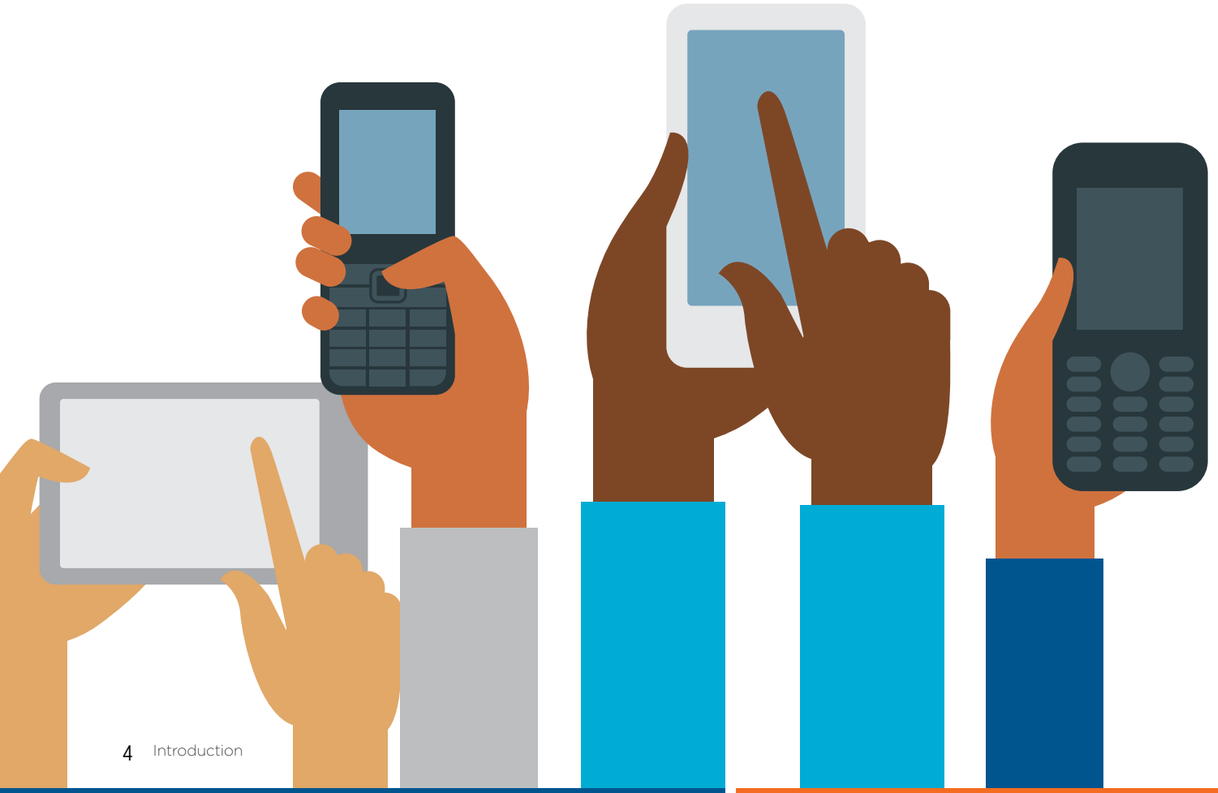
The Toolkit is:

a) **Modular:** all of its tools can be used in full, some can be chosen to be used without others, or elements can be taken out of the Toolkit and added to another assessment to complement it;

b) **Adaptable:** it can be deployed in various scenarios – we have highlighted the most critical parts that need to be adjusted for specific contexts throughout the Toolkit and its guidance; and

c) **Supported:** the GSMA will track deployments where possible, offer guidance on how to best use the tools, and continually listen for feedback and update the toolkit so that it stays up to date.

If you plan to deploy the Toolkit, please let us know at **conua@gsma.com**



1.2 What does the Toolkit do?

The Toolkit provides a range of tools to examine all aspects of mobile phone use for humanitarian purposes. Taken all together, these tools form a comprehensive understanding of mobile phone use and its context for a particular crisis. The tools answer questions such as:

- What is access to mobile phones like? Who does – and who does not – have this access?
- What are the barriers to access? How do they differ between population groups (e.g. the elderly)?
- Which mobile-enabled services are available (e.g. mobile money services; social media, etc.), and which are used, and how? Which ones are not used, and why?
- What specific technologies and services (e.g. SMS, phone calls) do end users prefer to use for receiving humanitarian assistance?

The Toolkit not only makes it easier to understand mobile phone use and its context for a particular crisis, but also enables:

- a better understanding of the digital ecosystem in a particular context and the factors that allow this ecosystem to function (e.g. availability and use of charging stations, strength of network coverage, etc.)
- the ability to quantify the digital divide including amongst more marginalised groups, such as people with disabilities and women.

The Toolkit addresses the lack of data about the digital needs of populations affected by crisis by giving humanitarians and their key stakeholders' the tools to measure mobile phone access, usage, preferences and skills of populations of concern in a robust and standardised way. This will allow them to assess and provide appropriate digital humanitarian interventions, which help build resilience and save lives. The Toolkit mitigates the digital divide by supporting decision-making to implement aid projects that improve connectivity and access to mobile technology, or deliver products and services that rely on this.

1.3 What does the Toolkit not do?

Mobile technology plays a pivotal role in delivering multiple areas of humanitarian programming, but the Toolkit does not aim to replace purpose-specific assessments already available in areas such as:

- Broader communication (where resources from UNHCR[10], Internews[11] or the CDAC Network[12] would be more appropriate);
- Cash and voucher assistance (where it might be better for users to consult the CaLP Programme Quality Toolbox[13] or the Red Cross Cash in Emergencies Toolkit[14]);
- Energy access.

Those who want to collect evidence in these areas may benefit from using elements of the Toolkit, but by itself, the Tools are not designed to answer all the questions necessary to design a successful communication strategy or a mobile money-based cash programme.

Additionally, while the Toolkit can help to identify services which may be appropriately digitised, it is not created to support the design process of new digital products or interventions. Here, we would advise that human-centred design approaches be taken to co-create with end users. These approaches can be adapted to suit the context or user group as required.[15]

Finally, this Toolkit does not replace the obligation for all humanitarian actors to ensure that their products and services do no harm.[16] Regardless of the evidence generated by using these tools, users should ensure that the programmes they intend to deliver do not lead to any negative consequences for end users.

10. UNHCR (2017). Information and Communication Needs Assessment Tool.
11. Internews (2015). Why Information Matters.
12. CDAC Network (2014). Assessing Information and Communication Needs: A Quick and Easy Guide for Those Working in Humanitarian Response.
13. CaLP, Programme Quality Toolbox.
14. Red Cross Cash Hub, Cash in Emergencies Toolkit.
15. GSMA (2020) Human-centred design in humanitarian settings: Methodologies for inclusivity.
16. ICRC (2020). Handbook on data protection in humanitarian action.

02

Using the Toolkit

A guidance document is available. The guidance provides a high-level overview of what types of data each tool is designed to produce, as well as guidance on how to effectively administer the Toolkit. It also highlights the most critical decisions and considerations that need to be taken into account before using the Toolkit, which include, but are not limited to:

- how does the tool fit into broader humanitarian programming?
- what protection concerns should be addressed?
- what makes a connectivity assessment different from other humanitarian assessments?

The guidance also includes further reading suggestions, which provide background on fundamental topics, such as humanitarian assessment and emergency connectivity, as well as more detailed understanding of specific topics, such as the required government regulation, mobile money and digital literacy. Given the length and breadth of the complete Toolkit, we recommend that users only select the tools where the resultant data is critical to the intended project or programme.

2.1 Overview of tools

2.1.1 End user survey

The end user survey tool is similar to a traditional individual assessment. It is designed to collect statistically representative data so that, with proper sampling, its findings can then be generalised to the entire affected population. Users should select the questions that are most relevant and exclude others to reduce the overall length. The survey can also be used as a question bank so that specific questions can be added to existing surveys.

2.1.2 End user Focus Group Discussion guides

Individual stories, nuanced aspects of mobile technology use, as well as topics that the researcher may not expect, are more likely to be revealed through semi-structured discussions. The Focus Group Discussion (FGD) guides therefore provide guidance on the best ways to collect the qualitative data that can often be lost in structured interviews, as well as explore topics that benefit from group dynamics. The FGD guide also provides suggestions on how to select participants. The questions in each FGD guide have been framed to facilitate free-flowing discussion, with specific prompts embedded, where appropriate, to help deepen discussions as the FGD progresses.

2.1.3 End user exercises

Exercises give mobile phone users the opportunity to demonstrate how the technology is used to complete specific tasks. They help the Toolkit user understand specific pain points for a given task and also learn about creative uses of technology that they may not have expected. One of the exercises included in the Toolkit is a participatory mapping session that helps the facilitator see a setting –for example, a refugee camp – from the perspective of its residents, highlighting areas and features that are prominent to them, rather than to camp managers.

2.1.4 Merchant survey, in-depth interview (IDI) and mapping tools

The tools targeted to merchants focus on understanding what mobile technology-related products and services are available and accessible in the local market, and at what cost. Merchants can be an individual or shop (ranging from small one-person kiosks to more established supermarkets) that sell products and services in a particular location. They are particularly useful when paired with phone users' perceptions on what they need (obtained through the end user tools).

A combination of merchant interviews (structured and semi-structured) allow users to get representative quantitative data on the products and services available in a specific location, but also leaves space for qualitative insights, similar to the end user tools. The mapping tool helps to understand a number of variables, including the opening times of select merchants, the density of phone credit/airtime and SIM card resellers, phone charging points, mobile money agents, and the products and services available for sale (e.g. mobile phone handsets, over-the-counter mobile money services).

2.1.5 Market assessment

This section helps users better understand what mobile phone and mobile money products and services are available and at what cost. It also can show how popular and convenient mobile money is within the local economy, and what electricity access really looks like. Because these topics vary widely from context to context, the best way to obtain this information will likely also vary. Therefore, this tool has purposely been developed to avoid being overly prescriptive and make it applicable in a wide variety of contexts. It can also act as a guide for including elements of or questions about mobile technology into pre-existing market assessment tools.

2.1.6 Signal strength test

The signal test tool helps Toolkit users map out connectivity coverage and quality in the area of interest, which helps collect systematic evidence about network connectivity strength and which services are reliably accessible.

2.2 Deployment scenarios

The Toolkit is purposefully designed in a modular way to make certain tools or questions fit the users' specific objective. This allows them to create tailored assessments and to combine it with other tools (either from other pre-existing resources or those created for the specific assessment).

While this Toolkit will likely be useful in a large number of scenarios, and the evidence from assessments using the tools would be valuable when many decisions are being made, we envision that the majority of usages will fall into one (or more) of four categories:

1) **Broad assessment:** to understand how connectivity and mobile technology is used in a certain context to identify which thematic areas (e.g. using mobile money to disburse for cash assistance or SMS for communication purposes) may be appropriately digitised;
2) **Cash and Voucher Assistance (CVA):** to assess whether mobile money could be a suitable mechanism to distribute cash assistance;
3) **Communications:** to identify where mobile channels (such as IVR, SMS or USSD) could form components of communicating with communities, early warning systems or other communication based programming; or
4) **Mobile-enabled products:** to assess the degree to which potential users already have access to mobile technology for different products, such as a pay-as-you-go solar home system.

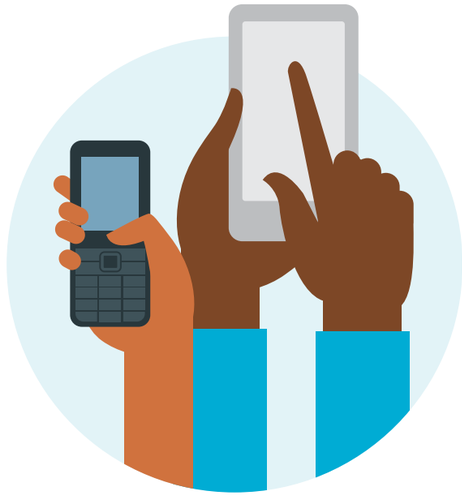
We recommend that users take time to consider their evidence needs for each assessment, but we have highlighted possible ways in which this Toolkit might be used for a hypothetical assessment under each of these areas (see figure 1).

Scenario

Broad assessment

An agency is interested in understanding how the communities they support in a particular refugee settlement access and use mobile technology, to help them identify aspects of programming that can be digitised in an inclusive and appropriate way.

End-user survey	Yes	
End-user Focus Group Discussions	Yes	(all)
End-user exercises	Yes	(all)
Merchant survey	Yes	
Merchant IDI	Yes	
Merchant mapping	Yes	
Market assessment	Yes	
Signal strength test	Yes	*If working in a contained area such as a settlement.*

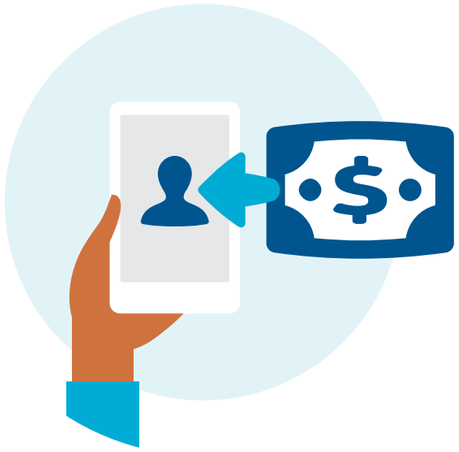


Scenario

Cash and voucher assistance (CVA)

Members of a cash working group are considering working with mobile money providers for future disbursements. To assess its feasibility, they want to jointly assess how comfortable users already are with using the technology and incorporate appropriate trainings into programme design.

End-user survey	**Yes**	
End-user Focus Group Discussions	**Yes**	(some)
End-user exercise	**Yes**	(linked to mobile money)
Merchant survey	**Yes**	
Merchant IDI	**Yes**	
Merchant mapping	**Yes**	
Market assessment	**Yes**	
Signal strength test	**Yes**	*If working in a contained area such as a settlement.*



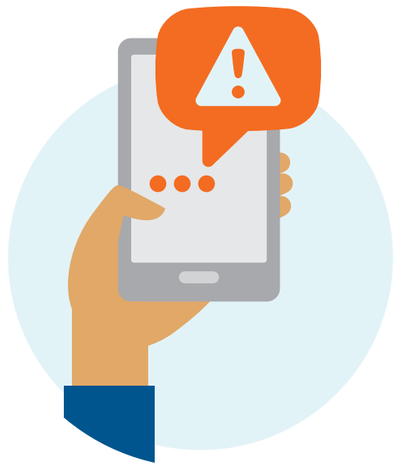
This would address questions about the distribution mechanism Other questions linked to a CVA programme would require other tools.

Scenario

Communication

An agency wants to support the development of an early warning system in one of the contexts where they work. They want to assess whether mobile (IVR or SMS particularly) is an appropriate modality.

End-user survey	**Yes**	
End-user Focus Group Discussions	**Yes**	(some)
End-user exercise	**No**	
Merchant survey	**No**	
Merchant IDI	**No**	
Merchant mapping	**No**	
Market assessment	**No**	
Signal strength test	**Yes**	*If working in a contained area such as a settlement.*



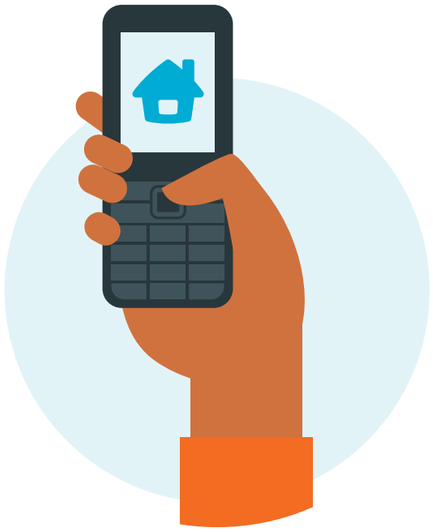
This user should also consult tools designed for broader communication needs and carry out a holistic assessment.

Scenario

Mobile-enabled products

A local innovator wants to roll out their mobile-enabled energy solution to a new humanitarian context. They want to understand how much their target customers already use mobile and mobile money.

End-user survey	**Yes**	
End-user Focus Group Discussions	**Yes**	(some)
End-user exercise	**Maybe**	(linked to required technology)
Merchant survey	**Maybe**	(if mobile money required)
Merchant IDI	**Maybe**	(if mobile money required)
Merchant mapping	**No**	
Market assessment	**No**	
Signal strength test	**Yes**	*If working in a contained area such as a settlement.*



This assessment should also include (and prioritise) tools focusing on the key thematic component of the project (energy access and use).

2.3 Guidance documentation

Documentation is available to support the use of the Toolkit. This guidance is broken into two categories:

- **General guidance** outlining key considerations when deploying the Toolkit (including the ethical and protection issues with users must ensure to address). It also helps users consider the key themes within the tools and outlines when and how to deploy the overall assessment.
- **Tool level guidance** provides detail on how to use each of the tools in the Toolkit.

Both guidance documents are available in **PDF format** on the GSMA website as well as within the **Toolkit itself**.

03

Development of the Toolkit

3.1 Approach to design and testing

The design of the Toolkit was informed through an inception phase that took place at the start of 2020. The inception aimed to identify other relevant existing toolkits to understand the current best practices – as well as gaps in mobile connectivity and digital needs assessments – in crisis settings. In the inception phase, a broad range of agencies and organisations identified by both the GSMA and REACH were approached to participate in the project by:

- Sharing their experience and expectations about the Toolkit through a standardised interview conducted over Skype or in person in Geneva;
- Joining a half-day workshop to summarise the interview findings and brainstorm Toolkit development; or
- Joining the Technical Committee to review and consult on the Toolkit during the development process.

The second stage of the Toolkit development involved testing and piloting the draft tools. This was originally meant to take place in Lebanon, Uganda and Ethiopia to evaluate if the tools and their translations adequately convey the intended meaning, are easily and consistently understood, and result in useful data. Unfortunately, COVID-19-related lockdowns and travel restrictions were implemented throughout the world during the time that had been scheduled to field-test the tools.

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3.2 COVID-19 adaptation

As an alternative to the original testing schedule, remote data collection was conducted by the REACH Lebanon office to gather feedback on the end user survey tool only, using phone calls. The interviewees included 72 demographically diverse individuals, with a mix of Syrian and Palestinian refugees and Lebanese citizens, both male and female, and of varying age.

Two key tests were conducted:

1. In the first test, called **"A/B test"**, interviewees were asked questions with the same meaning in different ways – all aimed at capturing the same information, but using varying wording. Different versions of the same question were spread out throughout the interview so that they were not asked in close succession. Participants identified the version of each question that was easiest to understand. The version most frequently selected was then taken to be optimal. If participants responded differently to the different versions of the same question, the reasons for misunderstandings were investigated and the most straightforward and readily understood version was selected.

   For example:

   A. "Do you know how to recharge prepaid credit?"

   B. "Do you know how to top up airtime?"

   C. "Do you know how to add account balance?"

2. In the second test, called **"test-retest"**, the same questions were asked twice to interviewees, with an interval between them of at least two weeks. The responses were then compared to check if interviewees gave consistent answers. Where the answers were consistent, it was taken to mean that the interviewee had likely understood the question in the same way twice. Where this was not the case, users investigated the reason for the discrepancy so they could identify how to improve the phrasing of the question.

Through these two tests, the end user survey tool was deemed clear, understandable and relevant for participants in Lebanon, with the exception of the mobile money section. As mobile money services are not used in the country, this section was not tested.

The questions were understood consistently the majority of the time, with the exception of one question's responses, which changed due to new lockdown habits. Responses to the question "What type of internet connection do you use most often on your phone?" changed because lockdown measures led to more people switching from using 3G or 4G to Wi-Fi at home.

3.3 Future development plans

Testing in Lebanon provided invaluable insight into how end users understood elements of the Toolkit, and it allowed us to make nuanced changes to the end user survey. However, because bias was introduced by the remote testing process (only those with access to a phone could be included, which therefore excluded those who did not have a phone from taking part) and because only one tool was robustly tested, further in-person testing is still required.

The GSMA and REACH, supported by the ETC, aim to test the Toolkit in a minimum of two humanitarian contexts in 2021. Preference will be given to locations where relevant aspects of the Toolkit can undergo robust testing. Because the mobile money elements of the tools have not been tested, extra effort will be made to include at least one location with a developed mobile money ecosystem. After the testing phase, a full pilot will be conducted with a partner organisation, in at least one context, to ensure that a case study can be published about the assessment and that the supporting guidance notes can be refined, based on partner feedback.

The selected testing locations will be determined by the impact of the COVID-19 pandemic and will only be carried out if the following criteria are met:

- REACH countries have resumed in-person operations;
- There are no COVID-19-related government restrictions on NGOs that would impede fieldwork;
- There are no restrictions on gatherings of fewer than 10 people;
- The intended fieldwork locations have adequate healthcare infrastructure; and
- The intended fieldwork locations are suitable for testing the Toolkit.

Ideally, the selected locations will cover different types of humanitarian crises to ensure that various scenarios and use-cases are tested and validated. Once the testing and piloting of the BETA Toolkit has been completed, any necessary changes will be made, and it will be republished alongside the pilot report as a final version.

The GSMA is keen to support the rollout of this Toolkit where it can, so we encourage interested stakeholders who are using the Toolkit to reach out and contact **conua@gsma.com** if possible.

The Toolkit will undergo additional testing and validation to ensure that it is fit for purpose. It will also allow robust data to be collected – about mobile phone access, use and skills amongst populations of concern – in a rigorously tested and standardised way. This data will be applicable to a wide variety of humanitarian contexts.

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For more information, please visit the
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