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Short Messaging in Complex Emergencies

A Rapid Guide



The Communication and Complex Emergencies Project

The Communication and Complex Emergencies Project is a multi-phase collaboration between the University of Adelaide's Applied Communication Collaborative Research Unit (ACCRU) and the Australian Civil-Military Centre (ACMC). The current phase of the project focuses on a range of new information and communication technologies (ICTs) and digital platforms and their role in supporting emergency and humanitarian relief and assistance processes during complex emergencies.

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Short Messaging in Complex Emergencies

1. Introduction

1.1 This guidance paper examines the use of mobile phone enabled messaging services and messaging applications such as SMS (short message service), WhatsApp, Facebook's Messenger and WeChat during complex emergencies. SMS and app-based messaging are very widely used and access to mobile phones has reached saturation levels in many parts of the world. This makes the use of short messaging a very direct and important mechanism for communicating with 'at risk' populations before, during and after emergencies. This guidance paper:

- Examines the relevance of the SMS and app-based messaging services to complex emergencies;
- Addresses the strengths and weaknesses of SMS and app-based messaging services as a channel of emergency communication;
- Provides a series of relevant 'tips' to humanitarian and emergency communication practitioners;
- Offers advice on the types of messages that SMS and app-based messaging services are most effective at delivering.

2. Using SMS and App-based Messaging in Complex Emergencies: Strengths and Weaknesses

2.1 SMS and app-based messaging services (WhatsApp, Facebook's Messenger and WeChat, etc.) are some of the most commonly used forms of communication associated with mobile phones. Mobile phones with short messaging capability allow emergency and humanitarian support organisations to send messages directly to large numbers of people in real time, i.e. immediately. Short messaging is of increasing relevance to emergency and humanitarian responders who are tasked with communicating with 'at risk' populations in a clear, concise and timely manner. During emergencies, the information needs of affected populations increases and mobile phones are good at grabbing users' attention, i.e. when an SMS notification alert sounds, short messaging can have a very direct impact.

2.2 Historically, SMS has dominated the messaging market, though app-based services are quickly outstripping SMS as the preferred channel for messaging (see Figure 1 below):

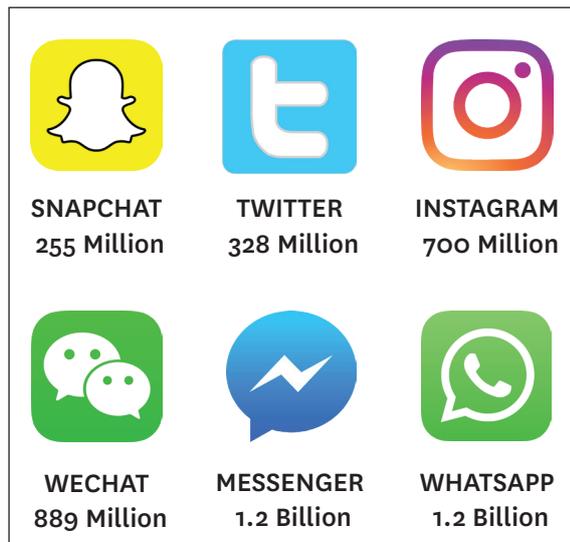
'People sent three times as many messages on Facebook's Messenger and WhatsApp in 2015 as they did via SMS. Facebook has revealed that its two messaging platforms process 60 billion messages a day, almost three times the 23 billion SMS messages that are sent. WhatsApp outstripped SMS just over a year ago, when Facebook announced that the messaging app handled 30 billion messages every day, compared to 20 billion sent through SMS'.¹

2.3 However, because local mobile network operators with a local customer base facilitate basic SMS it tends to be most widely used in emergencies, especially in the developing world. Here, Internet access via mobile phones is limited by lack of smartphone ownership or expense and this can make app-based messaging less relevant to a localized emergency response. App-based messaging services are often integrated into wider social media platforms, such as Facebook and Google+ and tend to rely on group membership, i.e. users signing up to a government emergency site or linking to friends. While governments or humanitarian organizations can message dedicated groups (i.e. to individuals that

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subscribe) through app-based services they may lack the ability to send all users an emergency message. However, app-based messaging services are useful for peer-to-peer messages, i.e. for family or friendship groups, and especially for letting networks know people are safe.

Figure 1: Global Social Media/Short Message Monthly User



2.4 The following strengths and weaknesses are associated with SMS and app-based messaging services and their use in emergencies:

Strengths:

- Useful in contexts where there is a high mobile phone ownership rate;
- SMS can work in contexts with a relatively weak network signal or when a network is congested;
- SMS has a predictable cost for the user;
- App-based messaging has very low or no cost;
- SMS is very effective at communicating with a large number of people/subscribers, as well as peer-to-peer;

- App-based messaging services are more effective in peer-to-peer communication;
- Effective means of broadcasting short and simple messages to all network users;
- Can disrupt routine activity, i.e. an SMS message tends to be read because it distracts phone owners with an alert sound or vibration;
- Appeals to youth and young adults;
- Is timely, i.e. can be used for advice, warning, emergency warning or behaviour change messages;
- Can be used for specific information addressed to specific risk groups; and
- Can generate basic dialogue, with text back services

Weaknesses:

- Requires a functioning mobile phone network;
- Requires access to or ownership of a mobile phone;
- App-based messaging requires an internet-capable phone and access to the Internet;
- Mobile networks and therefore the Internet are susceptible to damage during periods of conflict or natural disasters;
- Mobile networks often lack the capacity to deal with increased demand during emergencies;
- Requires a reliable power source to maintain the network and devices;
- Mobile networks can be shut down and are susceptible to government control;
- Requires literacy and e-literacy (technical knowledge) to use effectively;
- May have cost implications for users who use SMS to communicate; and
- May have cost implications for emergency services, as well as for the user.

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3. 'Top tips' for using SMS and App-based Message Services in Emergencies

3.1 If considering using **SMS and app-based messaging** as part of an emergency response the following 'top tips' will help identify some of the most important things to consider to ensure success. Tips are broken down into three broad categories of relevance to the provision of emergency and humanitarian assistance, notably: (i) before the emergency; (ii) during the emergency and (iii) after the emergency.

Before the Emergency

1. Pre-emergency assessment of the communications environment will inform a decision about the relevance and potential of mobile phone facilitated message-based options. Mobile phone ownership levels need to be high, and if using app-based messaging services, Internet capable smart phone ownership levels need to be significant. Unlike mobile phone network providers it may be harder to work with app-based services due to their internationalization and lack of local representation.
2. Effective coordination mechanisms tend not to emerge in the emergency itself, they require intensive preparatory work and partners need to familiarize themselves with each others' work culture to ensure that expectations are managed and outcomes are achieved. Developing partnerships between mobile phone network operators, governments and humanitarian organisations is critical to ensure 'at risk' populations have access to timely and potentially lifesaving information. Preparing to utilise SMS before an emergency and have a clear and agreed plan in place will help partners meet their expected outcomes.
3. Working with governments and communication-focused organizations on effective regulation and licensing promotes stronger public and 'pro-poor' access to new ICTs by making them cheaper and ensures basic public service commitments from mobile network providers to promote

messages through channels such as SMS during emergencies.

4. Effective bilateral and multilateral partnerships can also help ensure the mobile infrastructure backbone is maintained and capable of dealing with increased public demand for services during times of emergency. There should be enough redundancy in the operator's system so that network failure does not occur.
5. Working with national emergency response mechanisms and structures should be prioritized to avoid duplication of initiatives and a clear messaging strategy. Governments are often trusted sources of information and may have the best situational awareness due to the depth and breadth of their local networks. They also may have significant stakes in mobile network operations or the ability to influence commercial operators via regulatory conditions that require them to support certain no cost or low-cost public service commitments.
6. Mobile phone network operators have experience communicating simply and effectively with their clients and both governments and humanitarian organisations can draw on such skills when developing partnerships that support and promote emergency communication.
7. Mobile phone network operators have less experience in understanding the nature of emergencies, few mechanisms to increase their situational awareness and are therefore reliant on humanitarian organisations and governments to advise them effectively of the kind of information that needs to be communicated. Effective partnerships and coordination mechanisms can help establish clear lines of communication, as well as roles and responsibilities.
8. Decide whether the service will be able to respond to network users. Many direct messaging initiatives are 'one way' channels of communication, while more sophisticated

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initiatives are able to enter into a dialogue and respond to users with new advice and messages. Entering into a dialogue requires significant capacity. All initiatives should be capable of putting out new messages that address the changing situation as the emergency evolves because risks may change rapidly

During the Emergency

1. Ensuring that all information communicated via SMS or app-based messaging to 'at risk' populations is accurate, timely and responsible is important to all parties because public trust can be quickly eroded if incorrect information is provided; i.e. promotion of the availability of services that are not yet in place.
2. Mobile phone network operators may themselves be acutely affected by emergencies and can face significant human resource demands to restore services and deal with the customer base. Effective planning and thorough organizational risk assessment can help emergency communication partners to identify potential risks and how they will be overcome during disasters.
3. Understand what limitations mobile-based messaging has for populations who are 'at risk'. Messages should be simple direct, relate to an immediate danger, an action that needs to be taken or a service that is available. Messages need to be accurate and timely. Dialogue with partners will help to ensure that alternative or inaccurate messages are not promoted because this can lead to confusion amongst the public.
4. A SMS or app-based messaging initiative is likely to be part of a wider set of communication options being used to promote awareness, reduce risk and change behavior. Direct messaging plays an important role as part of wider emergency communication strategies. It is important to consider whether establishing dialogue

through other communication channels is likely to be more effective than short message-based channels, i.e. through social mobilization by on-the-ground emergency workers. Formative work on the media uses and preferences of disaster-prone or affected populations help determine which communication channels to utilize.

5. Sending messages to large population groups has cost implications that need to be considered. Often mobile network providers will undertake such communication as part of their public service or corporate social responsibility commitments. Cost implications should be discussed prior to emergencies so that partners are aware of who is paying and what costs are involved. During emergencies, it is important that messaging is not restricted by cost concerns and that messaging is maintained for as long as significant threats are present. Once major threats have passed alternative forms of communication may be more effective at raising awareness or changing behaviour

After the Emergency

1. In contexts that experience regular emergencies, such as cyclones, there is potential to learn from previous or current work to identify key messages that can be communicated to 'at risk' populations during a future emergency. Understanding the key phases of an emergency and likely implications for the messaging strategy is important. Emergencies have clearly defined phases and direct messaging may not be appropriate to all of them, i.e. post-disaster recovery. Direct messaging is often most effective in the immediate lead up to an emergency and during its initial acute phase.
2. It is important to understand the impact of a messaging initiative. Such initiatives are usually part of wider campaigns or strategies. Understanding the impact of the messaging, whether messages were clear and concise or promoted an action that could reasonably

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be taken is important to future use of the technology/approach. Working with partners to understand impact and problems is important to build knowledge, identify lessons learned and establish sustainable partnerships for the longer term.

4. Short Messaging

4.1 When using short messaging to communicate about emergencies it is important to create trust with people who are affected and 'at risk'. Trust is built when emergency messages are: (i) timely, (ii) correct and (iii) promote action. Direct messages can focus on a very wide range of areas and issues of relevance to reduce risk, enhance protection, increase safety and promote access to assistance. However, they are most effective when used to give real time warnings or direct messages that alert populations to an immediate threat or require populations to take some form of protective action. For example, SMS and app-based messaging services can be used to:

- Issue warnings;
- Promote prevention and protection measures
- Reduce risk and harm;
- Promote evacuation procedures;
- Alert populations to conflict proximity; and
- Raise awareness of service availability.

4.2 Complex emergencies have multiple phases and the information needs of affected populations may constantly change as new problems arise. Because of this, it is important to think about how short messaging can support different phases of an emergency situation:

- **Before the emergency** - short messaging may be concerned with cyclone readiness, preparing for power disruptions, ensuring the availability of prescription medicines, evacuating areas in the path of the cyclone, staying safe in one's home, worker safety in a power outage, risk of carbon monoxide poisoning due to failure of venting systems, flood readiness, electrical safety, preventing heat-related illnesses, hand hygiene, coping

with traumatic events and emergency wound care.

- **During the emergency** - short messaging may be concerned with raising awareness of the imminence of the threat, reducing risk and promoting protective measures, re-entering flooded homes or workplaces, cleaning a flooded home safely, worker safety after a flood, preventing injuries during the removal of debris, managing acute diarrhoea, sanitation practice after an emergency, keeping food and water safe, protection from animal or insect hazards, electrical safety, infection control and prevention, preventing violence and dead animal disposal.
- **After the emergency** - short messaging may be concerned with reconstruction and community rehabilitation work such as control of rodents, trench foot or immersion foot prevention, environmental health, respiratory protection for residents re-entering previously flooded areas or homes, suicide prevention, mould removal from flooded homes, mould allergies and a focus on reconstruction and development.

5. Advice, Warning, Emergency and Behaviour Change Messages

5.1 While short messaging can be applied to many issues during the various phases of an emergency, they are most often used to:

- Make 'at risk' populations aware of imminent threats, i.e. conflicts or natural disasters;
- Prepare communities to take action, i.e. prepare to evacuate; and
- Promote life saving actions, i.e. move to a shelter.

5.2 Often situations do not escalate into acute emergencies. But sometimes, they do. During an emergency, direct messaging of the type facilitated by SMS or app-based messaging services can be used to help 'at-risk' populations understand when a threat is escalating or de-escalating. Because emergencies evolve over

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time, a wide range of implications or risks can result. Performing routine practices such as breastfeeding, immunizations, using safe water, or feeding animals can lead to health crises. Emergencies may also result in increased levels of community violence or abuse, and this can lead to acute psychological stress and trauma. Because emergencies are complex and evolve in often dynamic and unpredictable ways, it is important to promote timely, concise and accurate messages that help communities and those at 'risk' make informed decisions about the actions they need to take (see Figure 2). Timely, concise and accurate short messages can help save lives.

Figure 2: Run, Hide, Tell Tweet from Metropolitan Police during 2017 Terror Event in London

Run
Hide
Tell

You must:

- RUN** - to a place of safety. This is a better option than to surrender or negotiate. If there's nowhere to go, then...
- HIDE** - Turn your phone to silent and turn off vibrate. Barricade yourself in if you can.
- TELL** - the police by calling 999 when it is safe to do so.

FOLLOW & SHARE updates from @metpoliceuk

METROPOLITAN POLICE

5.3 Direct short messaging in emergencies, of the type supported by SMS and app-based messaging services, typically focus on four types of message, including:

Advice messages: These messages are used to make communities that are 'at risk' aware of a potential threat. They advise communities to 'keep an eye out' for an event or danger. Such messages are for early use, although they can also be used to downgrade an existing threat.

Example 1 (warning, escalation): A tropical storm is developing that may turn into a cyclone. Bad weather is likely over the next 48 hours. Monitor news for more information.

Example 2 (warning, de-escalation): Bad weather has passed. Further storms are unlikely. It is safe to go outside or return home. Monitor news for more information.

Warning messages: These messages let 'at risk' populations know they are likely to be in danger, to prepare to take action, to protect themselves and to listen for further warnings.

Example 1: A cyclone is likely to hit the city in the next 24 hours. Get ready to go to a shelter. Monitor news for more information.

Example 2: Civil unrest is likely to occur in the city in the next 24 hours. Do not travel to the southern suburbs and stay indoors. Monitor news for more information.

Emergency messages: These messages advise populations to take action, to evacuate and to protect. They are used when an emergency is about to strike or is occurring. When a threat has passed, advice messages can be used to communicate de-escalation of the threat.

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Example 1 (evacuation): A cyclone will bring dangerous conditions in the next 12 hours. If you can, go to an emergency shelter now. Monitor news for more information.

Example 2 (too late to evacuate): Armed conflict is occurring within the city. Stay inside and do not go out until advised. Monitor news for more information.

Messages: These messages should be used sparingly because other forms of communication can be more effective at changing behaviour, i.e. face-to-face or peer communication. However, they can be usefully used to highlight critical problems that need to be addressed. They are used to maintain or adopt critical behaviour or promote a desirable action. They help affected communities protect themselves and reduce risk.

Example 1: Do not drink dirty water. Drink only bottled, boiled or treated water. Free water is available at all local schools, government offices and hospitals.

Example 2: Red stones or markings indicate that landmines are present. Heed the warnings and do not risk crossing into mine fields.

5.4 The short message examples above are simple and direct and all have 160 characters (including spaces) or less, which is the length of a standard SMS message. App-based messaging services have higher character limits, though it is worth remembering that constructing concise, clear and reliable messages is critical to effective communication and building trust with communities affected by emergencies.

6. Emergency Message Construction

6.1 The construction of simple and clear messages is important when considering the use of SMS or app-based messaging services. While such messages are direct, they have to be part of a wider communications approach that utilises other media channels, such as radio, television or press, as well as community mobilisation or outreach. SMS or app-based messaging services require significant 'back-end' capacity to enable an effective dialogue to occur with 'at risk' populations, because of this, such channels are often not used as tools of dialogue in many

developing world contexts (unless information is being solicited to promote crisis mapping in aid of enhanced situational awareness). Some clear principles are associated with direct messaging of the type supported by SMS or app-based messaging services.

These include:

- Direct messages are not used to command communities, but rather to seek community cooperation;
- Divorced from other supporting communication channels providing consistent messages, SMS or app-based messaging services alone are unlikely to have the desired impact;
- Communities may take time to respond to warnings and may seek verification through other media channels or from peers before deciding to take action, this underscores the value of a multi-channel emergency communication strategy;
- Accuracy, consistency and timeliness are critical when crafting and sending direct messages. A community will be unable to act on unclear information, will become distrustful of the source if information is incorrect, or be placed in danger if the message is too late;
- Communities experiencing emergencies are traumatised and this may affect their ability to process information. Therefore clarity and accuracy of messages is key; and
- Literacy levels vary and certain populations may have different language needs. Specific messages should be tailored to different language groups.

6.2 Depending on the medium used and constraints faced, such as character limits, it is useful if emergency warnings contain some or all of the following features:

- The name or title of warning, i.e. cyclone or conflict proximity warning;
- Who is issuing the warning, i.e. Chief of Police, Community Leader, Government Minister;

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- The type of threat (and preferably a description), i.e. open conflict, flooding;
- How likely it is that it will happen, i.e. highest risks should be communicated first;
- How bad it is expected to be, i.e. level of severity;
- Where the threat is greatest, i.e. low-lying areas or a particular urban area;
- Who will be most affected, i.e. specific risk groups, occupational groups;
- When it is expected to happen;
- What to do, i.e. what actions can be taken to reduce the risk and increase protection; and
- Contact details for more information or for affected populations to report events.

7. Principles for Developing Effective Emergency Messages

7.1 When developing short messages for use in an emergency the following principles will help identify some of the most important things to consider:

1. Never assume what messages participant groups need. Verify the relevance and appropriateness of messages through formative research.
2. Consider the 'voice' that will be used to persuade participant groups - for example, a peer or an authority figure. Think about whether or not the voice is credible.
3. Ensure the message is clear and available through multiple channels. Participant groups often need to confirm messages from an alternative source before they take action.
4. Make sure messages are specific, consistent and accurate. Ensure that information contained in messages is verified and validated by authorities.
5. Whenever the situation allows, understand how a message was received and whether it needs to be adapted or adjusted to have greater impact.

8. Key Resources

8.1 The following resources can provide more extensive information on both short messaging and short message development for emergency communication:

Global System for Mobile Communications Association (GSMA) Disaster Response - Towards a Code of Conduct: Guidelines for the Use of SMS in Natural Disasters (2013)

This resource provides a useful summary of the utilisation and potential of SMS in emergencies. It is written from the perspective of mobile network providers and encourages them to engage and partner with the humanitarian and emergency sectors.

<http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2013/02/Towards-a-Code-of-Conduct-SMS-Guidelines.pdf>

Australian Government - Emergency Warnings: choosing your words (2008)

This resource addresses the provision of emergency warnings in the context of rapid onset disasters in Australia. The guide begins by setting out a number of principles associated with emergency messaging. Subsequent sections look at how to structure an emergency message and what kind of language to use.

<http://www.em.gov.au/Emergency-Warnings/Documents/ergencyWarningsChoosingYourWordsEdition2.pdf>

Communicating with Disaster Affected Communities (CDAC) Network - Library of Generic Emergency Messages

The CDAC Network library of generic messages provides a very useful resource of hundreds of generic messages that cuts across a range of thematic areas relevant to complex emergencies, including: (i) Health; (ii) WASH; (iii) Nutrition; (iv) Food Security; (v) Protection; (vi) Education; and Camp Coordination and Camp Management (CCCM). These broad categories can be searched and refined using a range of filters including

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issues, threats, risk groups and participant group/intended audience. The message library provides an excellent starting point for communication practitioners needing to respond quickly to a specific emergency. Messages include a focus on alerts, awareness, self-care and service delivery, which reflect the different types of messages that may be required as an emergency evolves.

<http://cdac.trust.org/tools-and-resources/message-library/>

Pacific Humanitarian Protection Cluster (PHPC) - Quick Guide to Communication on Protection in Emergencies and Sample Key Messages for Protection (2012)

This useful resource provides a 'quick' guide to messaging for protection during emergencies. The guide provides sets of messages that can be used during the initial acute phase of an emergency.

http://www.globalprotectioncluster.org/_assets/files/field_protection_clusters/South_Pacific/files/PHPC_Quick_Guide_Communication_Key_Protection_Communication_Messages_EN.pdf

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