Trilogy Emergency Response Application (TERA)
Information, questions & answers

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Saving lives, changing minds.

International Federation of Red Cross and Red Crescent Societies
In times of disaster and crisis, communicating with those affected is vital. It allows the Red Cross and Red Crescent to provide communities with life-saving and life changing information. It helps the Red Cross and Red Crescent to manage the demand on its services and ensure a greater quality of aid delivery. It gives those affected a voice and makes the Red Cross and Red Crescent accountable for the services it delivers. Perhaps most important of all is, it gives hope.

The process of communicating with disaster affected people is known as ‘Beneficiary Communication’ within the Red Cross and Red Crescent. Effective beneficiary communication is about having two-way dialogue with communities, providing timely and accurate information, and enabling communities to participate and provide input into the delivery of aid services.

Beneficiary communication utilises a wide range of tools including face-to-face communication, television, radio, community meetings, loudspeakers and leaflets. To further enhance its ability to reach affected populations the Red Cross and Red Crescent utilises the TERA SMS system.

The TERA system

The TERA system allows the Red Cross and Red Crescent to send SMS to communities in defined geographical areas. The operator simply draws a circle or a polygon onto a map in the graphical user interface allowing them to send text messages to every active handset within the defined area. The TERA system is designed to support the workflow patterns of the Red Cross and Red Crescent.
The TERA can be used:

- To deliver flood, hurricane and other natural disaster warnings;
- To deliver targeted information about where to find medical help, clean water, food and shelter;
- To provide information to affected people on specific aid services being provided;
- To give detailed advice on a range of issues including hygiene, avoiding fraud, caring for the injured or sick;
- To communicate directly with affected people on how the Red Cross and Red Crescent can provide better services;
- To help affected people to provide the Red Cross and Red Crescent with information of their needs and locations;
- To allow the Red Cross and Red Crescent to plan responses based on affected population’s feedback.
Key features

GIS based user interface

The TERA system includes an integrated portal with GIS capabilities. Most functionalities used can be directly accessed from the interface, allowing the user to perform important tasks related to a specific geographic location.
Multiple mobile providers
The TERA system is able to send SMS directly to affected communities utilising the networks of up to four mobile operators.

Subscriber SMS notification
As the TERA is integrated within a mobile operator’s network, it is able to interact with subscribers using SMS. This is a two way communication channel whereby subscribers are able to receive aid related messages and in turn provide feedback to the system.
Keyword-automation

The TERA is capable of interpreting messages sent by subscribers and replying to them by sending preset responses. The TERA is capable of responding to keywords or phrases with pre-set messages.

Add personnel

The TERA personnel function allows the user to register the phone numbers of different groups or individuals in the system. This allows the user to provide prompt information updates and communicate with the registered groups or individuals.
Aid centers

The TERA enables the user to geographically mark specific locations on the interface with an Aid Center. The Aid Center identifies locations of specific services within an area.

Detailed reporting

The reporting function allows the user to manage incoming and outgoing SMS information.

Reporting with Pdf, Excel and CSV export capabilities

Dynamically displayed information is valuable, however having the same information available on a document is equally important. The TERA has a built in function to allow reports to be exported into PDF, EXCEL and CSV formats.

Opt in and Opt out function

In order to avoid the delivery of unwanted messages the TERA can be configured to allow subscribers to send a keyword to the system to either receive or not receive messages.
FAQ Frequently Asked Questions and Answers

GENERAL QUESTIONS

QUESTION 1: What is the TERA?
The TERA is an online system that allows the Red Cross and Red Crescent to send SMS directly to people’s mobile phones. The system can be used to provide health information on diseases, such as how to prevent malaria, or warnings of impending disasters, such as floods or hurricanes. Through partnerships with telephone companies, the Red Cross and Red Crescent can send SMS straight to people’s phones without needing to know their telephone numbers.

QUESTION 2: How has it been used so far?
The TERA has been operational in Haiti since 2010 and used to send messages on a wide range of topics, from hurricane warning and preparedness information, through cholera treatment and prevention to information on where to go for help if you’ve been a victim of rape. The system can send a message to the whole country or target just one affected area. The TERA can support programmes like CBH&FA and DM & DRR to reach many more people, quickly and cost-efficiently. The disaster management team in Haiti estimated that by adding the TERA to their disaster preparedness activity list helped them reach 100% more people than without it.

QUESTION 3: Is the TERA system for just blasting out lots of messages?
No, it can also be used to receive replies from mobile users. The TERA is a two way communication tool.
QUESTION 4: What are the benefits of sending SMS to people?

Around 100 million SMS have been sent in Haiti and a recent evaluation of the population found that 95% of people said Red Cross SMS were useful and 90% reporting changing their behaviour as a result of the advice and information they received. An SMS can be sent quickly in the event of an emergency, reaching more people, more quickly and more directly than any other method of communication. Additionally SMS providing health information can be stored on the phone and saved until needed, for example the recipe for home-made oral re-hydration salts (ORS) can be kept in your pocket in the event your baby becomes sick. Finally SMS allows us to communicate very directly and personally with millions of people – in the Haiti evaluation 12% of people said an SMS from the Red Cross and Red Crescent made them feel cared for.

QUESTION 5: What about literacy?

Obviously being able to read is useful when it comes to receiving SMS, however many people may not be fully literate but are able to ready simple signs, posters or basic text. An SMS by its very nature is short and succinct as it must be under 140 characters; this ensures that the language used in SMS remains simple. Therefore even those who are not fully literate are often able to understand an SMS.

QUESTION 6: How can we use the TERA system in our country?

To set up the TERA in your country we need to have a relationship/partnership with the mobile operators (MO) in your country. The TERA system is installed inside the MO control centre.

QUESTION 7: Why is it necessary to have a relationship with mobile operators?

It is necessary to have the relationship with the MO as the TERA is installed directly in the MO’s control centre. This enables us to send messages to and receive responses from people’s phones directly.

QUESTION 8: What if we do not have a relationship with the MO in our country?

The Global beneficiary communication (BC) team will be happy to help you to build that relationship and is available to help as needed.
QUESTION 9: What if we don’t have good mobile services?

SMS is a service that uses the lowest amount of data on a MO network. Even when the MO network isn’t fully functional an SMS can generally get through. If you do not have mobile phones in your country then the TERA will not work.

QUESTION 10: If we don’t have mobile operators or they won’t work with us what can we do then?

We can look at what other types of communication channels you have in your country to communicate with beneficiaries or affected populations and develop a plan.

QUESTION 11: Why is the TERA the most effective system to use?

The TERA system allows us to geographically target affected areas and send and receive messages directly to and receive responses from individuals as opposed to gathering individual numbers. It is a time and cost effective way to communicate with mobile phone users (and beneficiaries) once installed.

QUESTION 12: Is the system easy to set up in a disaster?

The process lends itself better to a set up prior to a disaster in the preparedness stages of our operations. The deployment process for the TERA from start to finish takes between two to three months, although the actual installation can take as little as 20 working days.

QUESTION 13: Is there a cost to the beneficiary/mobile users to reply and send an SMS to the TERA?

This is discussed in the negotiations with the MO and will vary from provider to provider. Ideally we can convince the MO that what we are doing is a good cause and ask them to cover the cost of sending a SMS.

QUESTION 14: Can other NGOs or Humanitarian Organisations use the system to send out messages?

The TERA is an IFRC managed system and there are legal responsibilities with it use. It is possible to send and receive messages on behalf of other organisations; this should be decided on a case to case basis.
QUESTION 16: How much will the TERA cost us?

The TERA system costs approximately USD 45,000 to install. This covers the one-time cost of the computers, the software and labour to install. The maintenance of the system can be carried out by the MO on our behalves.

QUESTION 17: If we don’t have the money in our NS does that mean we cannot utilise the TERA in our country?

If you do not have access to the funds, the global BC team can help you approach the MOs and other donors for support. This may not work but we will try.

QUESTION 18: How do we make sure that people do not send out bad messages from the TERA?

Before the TERA is ready to use we have to go through a process of developing a Standard Operating Procedure (SOP) that outlines the steps in the process of sending and receiving messages. A clear sign-off process is established before the system is put to use. Each National Society who starts working with the TERA will also receive support and training from the IFRC.

QUESTION 19: What is the legal process for a NS to use the system?

There are a couple of options available.
1. That the IFRC enters into a sub-license agreement with the NS to allow the use of the system and then the NS can enter into a direct relationship with the MO to deploy the TERA in their countries (most popular option).
2. That the IFRC enters into an agreement with the local MO and has a MOU with the NS on how the system is used in country.
3. Are there any legal issues that we need to be aware of where NS may face liability?

There are minimal liabilities for the NS when using the TERA system. As the IFRC has a legal obligation to developers of the system (Trilogy) it is expected that the NS will act in a responsible manner when using the system. (There is more detailed information available for the legal process on request)
QUESTION 20: Is the TERA an IFRC led program and only available for IFRC use?

The IFRC has a global license with Trilogy International to deploy the TERA system in any country that the Red Cross and Red Crescent movement operates in. The IFRC has a responsibility to support the NS and would be happy to work with NS to launch the TERA in countries where they have long term programmes and where the TERA could have a positive impact.

QUESTION 21: If a PNS/NS supports the deployment of the TERA (funds) in another country do they have the right to use the TERA system or is it only available for the country NS and the IFRC?

It is usually the case that when a PNS works with a NS they do so in partnership and the spirit of working together for the benefit of the people they serve. The same would be the case when supporting the NS to deploy the TERA system in their country. The NS will have the responsibility of ensuring that the system is used in accordance with the agreement they enter into.

QUESTION 22: Is there a process of deploying the TERA system?

Yes, there is a process that is currently being used for the deployment of the TERA. The basic steps to launching the TERA are:
1. NS make a decision to deploy the TERA in their country
2. Mobile network providers are approached to secure their support
3. Funding is secured for the project
4. Legal negotiations and contract signing
5. Installation and deployment of the TERA system
6. Develop SOPs with the NS and provide training on operating the TERA
7. Testing and launch of the system
A process can be supplied and discussed if there is an interest in moving forward with the project. Please contact us for further information.

QUESTION 23: How can we support NS in deploying the TERA in countries we are working in?

There are a couple of ways that the deployment can be supported.
1. Assisting in the development of relationships with MO. In some cases northern hemisphere countries own and manage mobile networks in more than their HQ country. Introductions and support in this area can be helpful
2. Funding the cost of deploying the system is also a way that PNS/NS can support the deployment
3. PNS/NS can also provide delegates to support the TERA negotiations, training and launch
As the National Societies have an Auxiliary role with their governments the installation of the TERA can help strengthen this relationship by working with government to provide important information and messaging to their populations.

**QUESTION 24:** Do SMS sent from the TERA automatically go to all subscribers?

SMS’s can be sent to subscribers who are using the specific MO SIM cards. People on the other networks will not receive the SMS unless the system is set up on their networks. It is possible to set up the TERA on all MO networks (up to maximum 4) in a given country.

**QUESTION 25:** Can people choose not to receive the SMS?

The system has an opt-in and opts-out function that allows the individual to decide if they want to receive the messages.

**QUESTION 26:** Will the Red Cross and Red Crescent send out too much information and annoy people?

The information that the RC sends out will only be for humanitarian information and not for marketing or commercial purposes. Around 100 million SMS have been sent in Haiti to date and a recent evaluation of the population found that 95% of people said these Red Cross SMS were useful and 90% reporting changing their behaviour as a result of the advice and information they received, so clearly people are happy to receive this type of practical and useful information.

**QUESTION 27:** Does the RC/RC need to have the permission of the government to deploy the TERA?

In most countries the Red Cross and Red Crescent is an official auxiliary to its country’s Government with a legal mandate to support the government in times of crisis and promote the health of its population. Therefore the Red Cross and Red Crescent usually works hand in hand with the different ministerial Departments, the TERA system would be no different the Red Cross and Red Crescent will engage and secure the support of the relevant Government departments.

**QUESTION 28:** Can the government use the system to send out messages

The system is only for sending out humanitarian messaging and in some cases life saving messages to affected populations. The Red Cross and Red Crescent movement has had experiences where they worked with the government in
Haiti to send out Early Warning messages on their behalf. This can be discussed as necessary. The system would never be used to send out political or propaganda messaging.

**TECHNICAL QUESTIONS**

**QUESTION 29:** How do you expect to get the data from MOs?

The TERA have two options to perform this.

**OPTION 1:** The TERA can extract subscriber-site information from data sources such as Data Warehouses, Mediation output files (CSV) or common Prepaid/Post-paid platforms, providing that such data is accessible and kept up to date.

**OPTION 2:** Subscriber-CellSite data considering the last activity performed by subscribers can be processed by the TELECOM and the summary can be transferred to the TERA repository. (Data Base or CSV File Path)

**QUESTION 30:** How often will you require the information to be updated for data extraction?

In order to avoid data source overloading, the recommended update frequency is on daily basis, however, the TERA can be configured to extract information according to the data source update frequency. For example, if a Mediation System can output CSV/Text files every 30 minutes, the TERA can be configured to extract information according to that frequency.

**QUESTION 31:** We are concerned about the level of detail of the extracted information which basically consists of subscriber activity. Is this information available through the TERA user Interface?

NO. Even though the TERA uses subscriber-cellsite data to deliver targeted SMS Messages, this information is only used internally but not available through the TERA user interface.

**QUESTION 32:** Our cell site locations are confidential. We don’t want to make them available through the TERA user interface. Is this possible?

YES, cell site locations on map can be enabled or disabled depending on the decision of the MO.
TECHNICAL QUESTIONS

QUESTION 33: Regarding Subscriber-CellSite data source, what are the minimum fields needed by the TERA?

The following are the minimum fields required by the TERA:
- Cell Site ID: Cell Site identifier
- MSISDN: Subscriber phone number
- Last Activity Date-Time: Date and time of the last activity performed by the subscriber on a specific Cell Site.

QUESTION 34: What hardware is kept on the MO premises?

All required hardware and software (Server) is installed on the MO premises and under control of the TELECOM Operator.

QUESTION 35: The data provided contain user and CID, we are worried about privacy can you comment on this.

The TERA is installed on the MO premises thus under control of the MO. Additionally, to maintain confidentiality, no detailed subscriber information is available to the NGO through the TERA user interface.

QUESTION 36: Getting the CID via CDR requires processing a huge amount of data. Will this be done on the TERA servers?

It will depend on the availability of the CDRs. Let’s say the Mediation System outputs files every 60 minutes, we can configure the TERA to process the files with this frequency. The TERA does not need to process the whole data in one step.

QUESTION 37: How do you integrate with our SMS Delivery platform?

The TERA can be integrated with an SMSC through SMPP v3.4 Protocol. Additionally, the TERA can be customized to be integrated with a Web Service based Middleware if available.

QUESTION 38: What is the maximum SMS delivery speed that the TERA supports?

More than 1800 SMS/sec. This value will depend on SMSC capacity installed in the MO control centre.
TECHNICAL QUESTIONS

QUESTION 39: Is it possible to configure the SMS delivery speed?

YES, the TERA can be configured to define the number of messages delivered in a specific amount of time (milliseconds).

QUESTION 40: Can we control the bandwidth allocated to the TERA?

The MO has total control on the amount of bandwidth allocated to the use of the TERA and has the ability to throttle or disconnect the system at any time.

QUESTION 41: What monitoring software or dashboard is provided for the mobile operator?

The system has inbuilt monitoring interfaces available to the MO.

QUESTION 42: What about the impact on our capacity? Will it crash our systems? How can we be sure it won’t impact on our commercial SMS traffic?

The MO has total control on how many messages get sent through their SMSC and has the ability to throttle or disconnect the system at any time.

QUESTION 43: Is there anything we need to take into account relating to data protection laws?

The TERA system does not allow the RC operator any access to information that could be deemed private from the subscriber. The system does not allow us to see the name, phone number or any personal information.

How we work

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Saving lives, changing minds.

Strategy 2020 voices the collective determination of the IFRC to move forward in tackling the major challenges that confront humanity in the next decade. Informed by the needs and vulnerabilities of the diverse communities with whom we work, as well as the basic rights and freedoms to which all are entitled, this strategy seeks to benefit all who look to Red Cross Red Crescent to help to build a more humane, dignified, and peaceful world.

Over the next ten years, the collective focus of the IFRC will be on achieving the following strategic aims:

1. Save lives, protect livelihoods, and strengthen recovery from disasters and crises
2. Enable healthy and safe living
3. Promote social inclusion and a culture of non-violence and peace

Contact information

For further information, please contact:

Will Rogers,
Global Beneficiary Communication Coordinator
Email: will.rogers@ifrc.org