Alerting, Information & Education

The Three States of Emergency Communication

By Gary Benner
Technical Director
IAD Technologies Ltd

Web: http://www.tsunado.co.nz
Email: gary@benner.co.nz

Background

Communications related to disaster events are important to save lives. This Paper considers the three types of communication that contribute to an effective strategy to ensure that when disaster strikes, there is minimisation of damage to life and property.

The Three States of Emergency Communication

We consider these types of communication as "states", because communication is a dynamic, and each encompasses a type of communication that represents a different dynamic.

Alerting

Alerting is a communication that is immediate and commanding. **It is a call to action.** It requires an instant response with little time for debate and discussion. If someone is unaware they are in peril, we may yell "*watch out*". It may be a car is headed their way, so at that time there is no time to do anything but leap out of the way. We raise our voice, and talk in a way that indicates this is not the time to discuss the matter. The nature of our speech conveys the importance of the command.

Information

Information is what we share to assist someone in an immediate situation. In the above situation, if the car was some way off, we may say in a less urgent tone, "*watch out, there is a car heading your way*". This conveys more details about the situation, and the person may then decide whether to move left or right, or decide the car is going to stop and do nothing.

Educational

Education is sharing of information in anticipation that something may happen in the future. We educate our children how to cross the road, so that they do not get run over by a car that they *may* encounter one day. We invest in Education to ensure that our population are best prepared for likely or scenarios they may encounter in their lifetime.

Communication in Relation to Disasters

Education

The first and most obvious way to prepare for a disaster is to Educate. This is best exemplified in the Boy Scout Motto "*Be Prepared*".

We are lucky to have the Internet to provide a platform to deliver educational materials that are relevant to the population. While there are many sites that in place to do this, most of the materials are not fit for purpose.

IAD Technologies Limited has access to the resources to deliver this material relevant to the various ages groups and different demographic groups in the population as a whole.

Information

Where there is time to provide more detailed information, and before any communications infrastructure is compromised, it is possible to provide a more more data to allow people to make up their own minds, as to a more considered response.

In some situations there is a reasonable amount of time to allow this. Consider say a Tsunami risk fro further afield, where there may be up to eight hours warning, or a fire risk that has yet to get out of hand, or continuing rainfall that if continued, would lead to major flooding.

Information of this nature is easily transmitted over radio, television, texting and dedicated smartphone applications.

TSUNADO Alert Radios are able to provide information both via the screen message, and the in built radio for up to 5 days.

Alerting

When a disaster strikes, or is very imminent, then the Alerting process needs to be very quick, and immediate. This can be due to flash flooding, a gas leak, outbreak of a fire, tsunami, a public safety issue such as a shooter, or earthquake and tsunami.

Alerts require an immediate action to evacuate the area, or take appropriate action. For instance in a Public Safety incident, residents may be required to lock their doors, close curtains, and lay low away from windows. For a Tsunami it may mean evacuate the area via approved routes, and the alert may indicate to go by foot or by car, and the time available – which in some instances may only be a few minutes.

Alert messages are usually short and direct. The TSUNADO Alert Radios have an in-built siren to get attention any time of day or night, provide both a screen message, and turn on the in built radio to deliver the Alert messages.

Genuine Alerting Devices

The word **ALERT** is defined as a verb in the dictionary:

      1. to warn, to prepare for action.

Alerting devices essentially provide an immediate **call to action**. Such devices are:

    (i)   a Siren
    (ii)   a Smoke Alarm
    (iii)   a Car Horn
    (iv)   a TSUNADO Alert Radio

Examples of different Alerting Devices.

The common element here is that they all generate a loud, intrusive sound that can be heard above normal human activity during the day, or wake people at night while they are asleep.

For emergency situations, Alerting devices need to be practical, and easy to use by everyone. That includes older people who do not have necessary skills with technology.

TSUNADO Alert Radios are Plug and Play

A TSUNADO Alert Radio can be taken out of the box, plugged into a power socket using a standard power pack, and that's it. They automatically scan the radio frequencies for a supporting radio station, and lock on to the one with the best reception. When an Emergency Alert is sent, a very loud and intrusive alarm sound is generated for up to 20 seconds, enough to wake the deepest sleeper, and then the radio is turned on.

For those with a hearing or sight disability, it is possible to hook up an appropriate external alerting device.

Information Distribution

Information Distribution is a secondary function, required to follow Alerting. Without an Alert to get focus and attention, the information is of little use in an emergency.

TSUNADO integrates both *Alerting* AND *Information* functions, with a high decibel alarm, a radio, and a screen to provide the essential information in times of emergency.

Information provides the detail necessary to make an informed decision. Depending upon the urgency of the situation, the information may only need to be one or two words – RUN, or GET OUT.

If time permits, more descriptive information is useful to help guide the listener/viewer on what the cause is, what the timing and extend of the situation, and if possible, the recommended course of action.

Other Information Distribution systems include:

(a)	radio	(d)	television
(b)	cellphone	(e)	computer (email and website)
(c)	newspaper		

Now we would not expect a newspaper to provide immediate alerting capability, and would be more suited to the Educational role in the next section. Computers do not push information, users pull information from them. Radio and Television likewise are required to be attended to get the information out.

Why Texting is not Alerting

Cellphone texts can be used to push information, however they are not suitable as a prime source for Emergency Alerts for the following reasons:

1. Cellphone text "alerts" do not provide an immediate call to action
2. With work life balance as a priority, cellphones are often switched on to silent or completely switched off after work.
3. When received, texts do not wake people at night.
4. Cell Broadcasting, the only practical way to send multiple texts quickly, is easily abused, making it a **Spam Channel** by the Telcos. It is not turned on by default on new phones, and is often turned off completely. It is also very expensive to implement, and would require in New Zealand a complete upgrade of every cell tower at a great cost of many tens of millions of dollars.
5. After a disaster, such as in Christchurch, the cellphone network becomes inoperative, and cannot be used to continue to provide meaningful information to the population. Normal battery radios soon lose their power as people continue to listen in for more information. TSUNADO Alert Radios only turn on when there is new information to be delivered, hence are able to operate for 5 – 10 days without recharging.

For good disaster management, many systems should be employed to ensure redundancy. Relying solely on just one system is short-sighted, and unwise.

Education

Education is what you can do prior to any emergency, to provide the knowledge of what best to do in any given scenario that may occur.

For instance, provisioning survival kits, basic first aid, escape routes and family communication plans, etc.

This makes people better able to deal with the situations as they see best, at the time, in the specific situation they find themselves in.

Online Learning

This is a cost effective way to educate the public. Anyone with access to a computer, at home, at school or a library can easily learn how best to deal with emergencies.

So when times are normal, the systems available over the Internet are best suited to this purpose. It is not wise to wait until there is a disaster to try and tell people what they should do to prepare.

TSUNADO and it's associated businesses have been working on education in the Emergency Sector for many years, and supports this mode of communication as a preparation for when disaster strikes.

Be Prepared

Standalone Mobile Apps

When the cellular network goes down, cellphones are almost useless as a means to communicate. This because the Web Apps so common on Mobile Phones rely on communication with a centralised web server to source information.

The TSUNADO Mobile App works differently. It works without the need to be connected online, for the most, using the cellular network and WiFi to update information in the background, such as emergency support locations, contacts, escape routes, how to's and medical help.

When disaster strikes, all the required information to support displaced individuals is already there on their phones.

For more information contact:

IAD Technologies Limited
Web: http://www.tsunado.co.nz
Email: info@tsunado.co.nz
Tel: +64 9 281 4391