Chapter 10
Communications, information, education

10.1 Introduction

Communicating with communities is central to disaster risk management, in order to share information about the hazards and risks that people face and the wide range of measures they can take to mitigate and prepare for potential disasters. Development and disaster professionals also need to know about the views and priorities of the people they are supporting and the risks those people are facing.

Communications, awareness raising and public education are also key to scaling up DRR from individual projects and programmes. Strategic, coordinated work to generate and communicate knowledge about DRR brings benefits to significant numbers of vulnerable people. Good communication also has an important role to play in public decision-making processes. Most DRR communications initiatives aim to promote behavioural change amongst communities and their organisations, but there are also opportunities to achieve social change by supporting community dialogue or collective action on issues of risk and vulnerability. Like participation, communication should aim to shift the balance of power towards communities by enabling people to investigate, define and explain their own problems.

10.2 Principles of good communication

DRR can learn from the experience of agencies working in sustainable development and humanitarian programming, where there has been a growing emphasis on dialogue with communities. Many, if not most, organisations now accept that they have to listen to vulnerable people, and that problems and solutions must be identified collectively. The emphasis therefore needs to shift from one-way information dissemination by specialists to genuine communication (i.e. dialogue and exchange of information) between specialists and communities. Participatory methods (see Chapter 6) have played a central role in this change of approach.

This way of communicating is not universal, but it is becoming much more widespread. Nevertheless, more effort is needed to incorporate the dialogue approach into DRR communications. Some disaster management professionals persist in the belief that they alone understand and assess risk and risk management objectively (i.e. scientifically). They assume that people do not fully understand the risks they face or how to deal with them, and that popular understanding of risk is subjective or even irrational. From this they conclude
that people must be better educated about risk; where existing messages are not understood, they simply need to be repackaged to make them easier to understand. This approach sees risk education as a kind of public relations exercise, where messages are transmitted from small groups of experts to the uninformed masses. The result is that knowledge sharing remains top-down, driven by DRR professionals and their institutions’ agendas, whereas it should be more responsive to communities (and to whole communities – communication must be inclusive, with multiple communications channels to reach different groups). We have also seen (in chapters 3 and 6) how important it is to involve communities in the entire process if projects are to be relevant and sustainable.

The dialogue approach to communication is not easy. It often involves ‘cross-cultural’ communication between outsiders (disaster professionals) and people at the grass roots. Outsiders and local communities can express themselves in very different ways. For local people, visualisation and talk are often important in analysing and transmitting knowledge; for outsiders, especially educated and professional people, the written word is dominant. For outsiders, precise and quantifiable calculation confers weight and authority on information; for local people, comparing is often more important than measuring, especially for practical purposes.

Professionals also like to arrange their information into definable categories, where it can be subjected to recognised methods of quantification and analysis. It can be hard for them to understand the complex, diverse and dynamic realities of community life, and equally difficult to translate that information into projects that tackle a variety of interconnected

Box 10.1 Some aims of risk communication

- Stimulating community participation and empowerment in DRR.
- Facilitating discussion between specialists and communities, and joint problem-solving.
- Identifying aspects of risk.
- Presenting and explaining risk information to relevant target groups.
- Supporting the risk management strategies of people exposed to risks.
- Warning individuals and communities.
- Developing disaster management strategies for authorities.

Figure 10.1 Communications and the project cycle

risks. Dialogue is often a messy business. It involves discussion, debate and sometimes argument between different stakeholders. Consensus cannot be guaranteed. Dialogue can also be time-consuming – and therefore resource-consuming.

Even where there is dialogue, outsiders will often find it difficult to understand the community’s environment, needs and points of view. The process of dialogue requires some humility on the outsiders’ part: they have to recognise their ignorance of other people’s lives and accept that they can never fully understand the vulnerable person’s point of view. Vulnerable people can explain their perspectives clearly to outsiders if they are given an opportunity to do so.

10.3 Communications strategies

The aim of public education programmes should be to create what is often called a ‘culture of safety’, where awareness of risk and adoption of risk-reducing measures are part of daily life. It is relatively easy to improve knowledge of hazards and risks and how to deal with them, but harder to change people’s behaviour so that they take appropriate measures, individually or collectively. Achieving a culture of safety is a long-term process, therefore; it cannot be achieved through a one-off intervention. A programme of activities is needed to reach different target groups, explain and reinforce messages (repetition of messages can be an important element in successful public education campaigns), and give people opportunities to think about, question and validate the information they receive. It may be a long time – perhaps several years – before behaviour changes. Nevertheless, the experience of public education initiatives in other fields, such as public health, shows that it is possible to change behaviour in positive ways.

Research also shows that people are unlikely to take action to reduce their risks unless they know what specific actions can be taken, they believe that those actions will be effective and they are confident in their ability to carry them out. Another point to remember is that people must be encouraged to act, not simply told to do so. Nevertheless, it is also well established that people only respond to awareness-raising initiatives by specialists to the extent that they believe the information supplied and trust those providing it. Trust is vitally important. Public distrust of policymakers and officials can undermine risk communication initiatives; if lost, trust is difficult to regain.1

All DRR programmes should include communications and awareness-raising as a central, ongoing element, and they should have a clear strategy for doing this. In practice, relatively little time and effort is invested in this area. It is often just a component added to the end

of individual projects, undertaken by people without specialist training or skills. Public education therefore becomes fragmented into separate, one-off, short-term interventions whose impact is rarely assessed. Ideally, it should be a long-term, sustained process that seeks to raise awareness and stimulate protective action progressively and sustainably.

Box 10.2 sets out 11 steps to be undertaken in developing and implementing an effective communications strategy. Note that most of the steps involve planning and testing – implementation does not begin until Step 10. Pre-testing of methods and materials is essential to ensure their appropriateness and effectiveness. Involvement of communities throughout the process is also a key factor in making it relevant and successful.

Communications and public education strategies should use a wide range of complementary methods to reach different target groups and maximise their outreach. Successful campaigns choose methods that complement one another (e.g. mass media messages complemented by interpersonal or group communication). The mix of methods is likely to change over time as some are found to be more effective than others, or their effectiveness is diluted as they become too familiar to public audiences. There must be a clear understanding of the people the initiative is aimed at: who the target groups are, why they have been chosen, their

Box 10.2 Eleven steps in a communications strategy

1. Define the overall project purpose.
2. Define the aims of the project's communications strategy.
3. Identify and prioritise audiences and participants.
4. Determine information needs.
5. Identify barriers and opportunities.
6. Identify communication channels and messages.
7. Plan coordinated timing of activities.
8. Formulate communication material.
9. Participatory pre-testing.
10. Implementation.

current levels of understanding and interest in risk reduction, what changes in attitude and behaviour can be expected from them and how they can best be reached.

There is no perfect medium or method for communicating, but in any situation the best methods will be those that are appropriate to the target audience. People the world over have their own preferred ways of receiving and sending information. Communities are not homogeneous, and methods that work well for one group may be inappropriate for others. Communications with the poorest, most marginalised and vulnerable groups can be particularly challenging. Generally, they cannot access the full range of relevant information and knowledge that is available on account of factors such as illiteracy, language barriers, disability, cultural marginalisation, displacement, physical remoteness and poor transport, social isolation and lack of access to technologies such as televisions, radios, social media and mobile phones. For such groups, their own social networks are often the most important channels of communication. Projects should identify these differences within societies and try to use the methods that are most suitable for reaching all sections of the community.

**Case Study 10.1 Communicating weather forecasts to farmers**

Over 70% of Ugandan households depend on rain-fed agriculture. They need reliable forecasting information to plan their farming activities and protect their crops. The government’s Department of Meteorology is responsible for issuing weather forecasts and advisory messages. However, in the past many people did not receive these in time, the terminology used was too complex and technical, guidance was unclear, information was in English only and neither the Meteorology Department nor local government had the resources and coordination capacity to disseminate forecasts adequately. As a result, many communities did not receive or trust official weather forecasts.

In June 2012, the Meteorology Department began issuing simplified seasonal forecasts and advisories, translated into local languages (initially four, later rising to ten). Advisory messages were also prepared for specific sectors (such as health, agriculture, water and energy) and dissemination to communities became more thorough and targeted, using a range of communications channels including radio, meetings, churches and markets. Most of the target areas received forecasts in time.

*Case Study: Weather and Climate Forecasting for Community Resilience to Climate Related Risks and Shocks (Kampala: Ministry of Water and Environment, Department of Environment, undated).*
Many risk communication initiatives are based on ‘active’ information – i.e. exhortations to people to do something. But it may be just as important to use ‘passive’ information: making sure that when people do want more information or have questions, the material or answers they need can be obtained easily. A combination of active and passive information is often useful.

Personal experience of a recent disaster is a powerful force in inspiring people to take protective action. Purchases of emergency resources – radios, torches, canned foods, bottled water – and interest in obtaining official information on good practices often increase considerably after an event. This ‘window of opportunity’ for public education and mobilisation may not remain open for long, as anxiety about disasters is supplanted by everyday concerns or complacency sets in.

There are obstacles to maintaining public information facilities such as documentation centres and networks for distributing materials. The main one is the difficulty of securing

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Box 10.3 Questions to ask when choosing communications methods

Communications strategies must be planned with care. Questions to consider include the following:

- What is the purpose of your message?
- Who are the key people you want to communicate with?
- What facts must be presented to achieve your desired effect?
- What are the audience’s current attitudes towards the issue?
- What are the preferred communication styles of the audience (e.g. formal versus informal, written versus verbal)?
- Are you sufficiently familiar with the subject matter that pertains to the message?
- Are there constraints that affect the selection of the method (e.g. time availability, necessary skills, logistical arrangements, access to the medium, shared language, literacy, existing knowledge of the subject, cultural sensitivity)?
- Are there visuals that will convey the message better than words, or that will supplement words to strengthen the impact of the message, making it more engaging, easily interpretable and memorable?

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ongoing funding. Another problem is that the growing demand for information as a result of successful dissemination increases staff workloads and may require extra capacity. Charging users for materials and services rarely produces enough income to cover costs, and excludes the poor. More attention should be given to helping communities themselves to acquire, keep and share information between their members and with other communities. Finally, it is always advisable to get help from communications specialists when planning and implementing initiatives.

10.4 Communication methods

The individual methods that can be used to raise awareness about risk reduction are very diverse. A few commonly used ones are described in this section, but the range of possibilities is wide.

10.4.1 Interpersonal communication

Face-to-face communication – formally and informally, through field workers, community mobilisers, extension workers, local meetings and workshops – is generally reckoned to be one of the most effective approaches to communication, in terms of knowledge sharing, learning and dialogue. Community mobilisers and educators are important channels of communication: some may be project workers; others are community leaders and local volunteers. Participatory vulnerability analysis and community action planning events develop common understanding and encourage interest and action at the grass roots.

Exchange visits are an excellent way of allowing people to learn from their peers about new or alternative practices and technologies. They have been used in many contexts, notably in agriculture and food security, where farmer-to-farmer exchanges have encouraged the transmission of knowledge about such matters as seed varieties, land use practices, irrigation technologies and crop storage. Agencies often facilitate these processes, for instance by making arrangements and providing transport, but the discussion and information-sharing take place between community members.2

Games can engage and motivate people, especially young people, to think about risk reduction: they are increasingly being used in participatory project planning, for example using scenario exercises. The UNISDR has developed Stop Disasters, an open-access online simulation game which sets challenges of decision-making and priority-setting in defending

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against a range of hazards. With UNICEF, UNISDR has also developed a disaster board game for children, *Riskland*, which has been translated into several languages.³

Projects should be aware of how information is normally shared within and between communities, and who may be left out of the process. A great deal of information exchange takes place informally, for example within families, at village meetings, while collecting water at the well or at markets. It is oral, not written. It reaches people who are often not reached by newspapers, radio or government extension workers. These communication mechanisms cannot be managed or directed from outside, but by knowing how informal communication takes place it is possible to feed information into social networks through key stakeholders or communicators. Project workers should be imaginative here. For example, in the early 1990s an NGO in Peru seeking to promote alternative technologies for earthquake-resistant housing focused on local taxi drivers after it discovered that they played an important role in spreading information when talking to their passengers.⁴ In the field, informal and casual conversations between project staff and local people – in cafes and markets, on the street, at public events and roadsides – are often mutually productive and far less likely to be dominated by local leaders and elites. However, it is often difficult to document and assess the impact of informal communications channels.

**10.4.2 Printed, visual and audio-visual media**

The production and distribution of printed public information materials (e.g. leaflets, magazines and newsletters, posters, factsheets, fliers, brochures, information cards, bookmarks) is still one of the main communications methods used because it is relatively cheap and easy to manage, and in theory reaches large numbers of people. However, the impact of many activities of this kind can be seriously weakened because of inappropriate presentation. If presented in a clear, understandable format, hazard and risk maps can be a good way of explaining threats to communities and stimulating action, but careful thought should be given to how people interpret and understand maps (see Box 10.4: Maps as a communications tool).

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Print and broadcast media (e.g. newspapers, television) can be used to promote safety messages and share information about new initiatives. These reach large audiences and can be cost-effective if used well and targeted carefully. Mass media communication is most likely to be successful if linked to other actions on the ground and if audiences can get involved (e.g. through community radio stations, audience feedback or competitions). Disaster professionals sometimes make use of the broadcast entertainment media to provide what is called entertainment education – that is, embedding educational messages in entertainment programmes, such as TV and radio soap operas (see Case Study 10.2: Uses of radio in DRR).

Visual communication transcends language, and in the digital age images can be transmitted widely. It is often assumed that images are easy to understand and will be widely understood, but this is not necessarily the case, and in many cases images can be misleading. It takes time and skill to create images that are appropriate and clear in their messages (see Box 10.5: Presenting and interpreting images).
Case Study 10.2 Uses of radio in DRR

Radio can be an effective tool in DRR, particularly if broadcasts are professionally produced. Programmes are relatively cheap to make, and radio sets are affordable, portable and widely used. This case study contains examples of two different approaches to radio in DRR.

Public information broadcasting

In 2001, a radio project was launched in Central America to highlight risks from hurricanes and disseminate advice about hurricane preparedness. The initiative was funded by several regional and international agencies. The broadcasts took the form of short dramas (radionovelas), each consisting of five half-hour instalments, with the series title of Tiempos de huracanas (‘Hurricane Season’). Programmes were broadcast in the morning and reached mostly women managing their households and younger people. The Costa Rican NGO Voces Nuestras (Our Voices) coordinated the project.

In the first year of broadcasting, 2002, 46 radio stations took part; in the second year there were 86, from six Central American countries. The broadcasts were supplemented by a broader awareness-raising campaign, which included community workshops. Audience feedback and evaluations indicated that listeners related the stories to their own daily lives, valued the guidance given and generally understood the key messages. There was also evidence of people mapping risk zones in their localities for the first time as a result of the programme.

Participatory radio

To test the effectiveness of participatory radio, Farm Radio International and World University Service of Canada set up the African Farm Radio Research Initiative (AFRRI) in partnership with 25 radio stations in Ghana, Malawi, Mali, Tanzania and Uganda. The project partners created a series of radio programmes to help farmers improve their agricultural practices, using a participatory model that allowed farmers to contribute at every stage.

Each radio station established an Active Learning Community (ALC) of local farmers, who were surveyed about their needs and agricultural practices, as well as their radio listening habits. The ALCs then took part in designing radio programmes that focused on specific practices to improve food security and livelihoods. The three-and-a-half year initiative reached 40m farmers. Evaluation showed that farmers had learnt a great deal from the broadcasts, and that a significant proportion of them had adopted agricultural improvements and were continuing to practice them.

Box 10.5 Presenting and interpreting images

Pictures have a powerful impact. People are moved by visual messages more than verbal or written ones, and tend to remember them better. This is obviously likely to be the case in societies with low literacy levels, but it is also true in well-educated communities. However, it is easy to go wrong in producing material based on visual images. Do not assume that images speak for themselves: they must be interpreted. The way in which they are interpreted is strongly conditioned by local cultures and visual traditions. A diagram that is easily understood by a community in one place may not make any sense to another group of people somewhere else (see Figure 10.2: Interpreting images). Trainers and field workers can use images effectively in their work, but they must take time to explain them and answer questions. Their skills as communicators will determine how effective the images will be.


Figure 10.2 Interpreting images

In a study in Nepal only 3% interpreted the tick and the cross as indicating good and bad ways to feed a baby.

In this drawing indicating good and bad houses in northern Pakistan, the cross was interpreted as a ceiling fan and the tick as an Urdu 7.

Video is an effective and increasingly accessible method of conveying information. Modern digital technologies have reduced the cost and difficulty of making videos, and the internet has greatly increased their potential reach. Although videos can now be made quite cheaply and easily, a high level of technical and editorial skill is needed to make good ones. Video can supplement community exchange programmes by allowing communities to see what is actually happening elsewhere. Participatory video (like participatory mapping and photography) can also be a means of giving poor and vulnerable people a voice. It allows them to tell their own stories and present their own concerns, and to share these with other communities or disaster professionals through public events such as film screenings and workshops.

Many agencies working on DRR post videos on video networking sites, including YouTube: these include case studies, technical guidance and more general ideas, and are becoming an effective means of communication. By the end of 2009 the IFRC’s YouTube channel had received 75,000 visits, 750,000 videos had been viewed and the most-viewed video had been seen 130,000 times; some of the most popular videos were on building hazard-resistant houses. Video is often favoured by decision-makers as a quick and convenient way of obtaining information. Scientists monitoring Mount Pinatubo in the Philippines before its eruption in 1991 used a video with footage of other similar eruptions to brief government officials (from the President down to local staff), students, teachers, religious leaders and communities about what was likely to happen. It proved highly effective in overcoming scepticism and persuading people to prepare for the impending event.

ICTs, which play an important part in DRR (see Chapter 8), are now extensively used worldwide to raise public awareness of hazard risk and support household and community action, especially in preparedness and response. A growing number of websites provide long-range forecasts, warnings or real-time hazard information; examples include Tropical Storm Risk, the Famine Early Warning Systems Network (FEWSNET) and the UK Environment Agency’s flood warning site. There is evidence that such sites receive large numbers of visits when there is a perceived hazard threat.


10.4.3 Public events and activities

Other approaches are based on public events and performances. Folk media such as plays, songs, story-telling, dance and festivals are widely used. These methods are based on indigenous communications practices and traditions, use local languages and are often interactive occasions allowing people to share their own views and experiences. Art and photography competitions on relevant themes are also popular, especially for young people.

Public exhibitions are another often-used way of highlighting risks, advocating protective measures and promoting new initiatives. For example, projects introducing alternative ways of building to withstand hazards may erect demonstration houses, to raise awareness and provide an informal forum for discussion with community members. Model houses are sometimes put on shaking tables in public displays to show how they stand up to earth tremors. Similar approaches are often used in food security work: for example, demonstration plots showing the benefits of alternative crops, irrigation methods or other agricultural techniques. Emergency services open days make communities familiar with emergency management systems and personnel, and are an opportunity to introduce risk and safety issues. Simple, inexpensive visual devices in public places give permanent reminders of hazards and disasters: warning signs can be put up or painted onto walls; flood levels can be marked on bridges, telegraph posts or buildings.

The anniversaries of major disasters are commonly marked through public ceremonies and publicity in the media, as a way of reminding people of the hazards in their environment and the damage they can cause. Anniversaries can be potent reminders, as well as having psychological value as rituals of grieving and healing. Some organisations hold annual events to highlight disaster issues. UNISDR has designated the second Wednesday in October as the international day for natural disaster reduction. Agencies in many countries plan events for this day, which gives them an opportunity to work together to spread public messages. Other countries may have their own special days annually; Fiji has a national disaster awareness week.

Public campaigns can be highly effective, especially if they focus on a specific issue or problem and a clear solution is identified, such as building new flood defences, clearing rubbish blocking drains, wearing seat belts in cars or introducing new safety regulations. Successful campaigns also benefit from a sustained and consistent set of messages repeated over a long period of time.

10.4.4 Social media

Social media is the term used to describe a wide range of online tools that allow people to network and communicate independently. These include email, listservs, social networks, file sharing (documents, photographs, video), wikis (collective authoring), blogs and text/
Case Study 10.3 Use of social media in floods

During the 2011 floods in Queensland and Victoria in Australia, social media played a significant role in providing flood-related information. The Queensland Police Service facebook page became a key source, but several facebook community pages were also created to post real-time information on what was happening in different localities. Subsequent research showed that the users of the facebook pages sought principally to obtain information relating to their communities, families and friends. This knowledge was then shared within family and friendship groups. Information received in this way was generally regarded as accurate, trustworthy and timely. The pages also played an important role in rapidly refuting rumours.


SMS messaging. Social media are widely used by people affected by emergencies to share information about what is happening; identify sources of support, equipment and resources; seek technical, material and financial assistance; hold assistance organisations to account for their actions (or inaction); and stimulate public debate about what is happening and what could and should be done. In this way, they give a public voice to people who might not otherwise be heard. This use of social media is an extension of the spontaneous self-help efforts that characterise disasters: people in affected communities are always the first responders, before external assistance arrives. Electronic information networking is also a form of social capital, drawing on existing social connections and creating new ones.

Disaster responders can benefit from social media, particularly crowdsourcing of information on disasters’ impact, and about areas and people in need. Free, open-source software is now available for data collection, visualisation and interactive mapping (see Section 10.5). Emergency management systems have adopted social media techniques: crisis information websites are becoming increasingly common, for instance, and in many places it is possible to subscribe free of charge to SMS emergency messaging services. New York’s text notification system, Notify NYC33, has over 140,000 subscribers, who receive alerts about emergencies, public health issues, major events and school closures.8

10.5 Managing information

Many emergency managers are anxious to have standardised information on risk and disasters in order to ensure that messages are reliable and consistent. This is a particular concern with forecasts and warnings of imminent events, where mixed and inaccurate messages can prompt inappropriate responses, may lead to confusion or even chaos and, ultimately, magnify the impact of the disaster. Messages should be reliable, consistent, easy to understand and act upon and credible (i.e. from trusted sources).

Agencies should therefore coordinate their messages. For example, in the United States a number of organisations have come together to develop standard messages relating to hazards, preparedness, evacuation and shelter; the IFRC has produced a set of key messages on DRR to be used in public education; and the Communicating with Disaster Affected Communities (CDAC) Network hosts an online searchable database of messages for use in preparedness and emergencies.9

In practice, people seek to validate information they receive by cross-checking it with other people and sources, such as friends, neighbours, family, community activists or leaders, radio, social media, websites and television. They may well follow the actions of other people they know. This can happen even when emergency warnings are issued and swift response action is required. Furthermore, in an age where people have access to more and more sources of information – in the media and on the internet – controlling and centralising information is no longer feasible, except perhaps under a few authoritarian regimes, where in any case the public may not trust official sources.

Disaster managers nowadays have to work with communities that are increasingly able to choose and question the information they receive. They need to acquire more extensive skills in media management. They will also have to move away from the old supply-side approach to communications, where experts at the top or centre issue information outwards and downwards to target groups, and adopt a more demand-led approach that sees communities at risk as consumers of information from different sources, exercising a right to choose what information to use and where to obtain it. This may require DRR organisations to become knowledge brokers and facilitators of discussion, as well as being producers and disseminators of information. This will make their task more difficult, without doubt. Communities are able to use multiple sources of information effectively to reduce the impact of potential disasters, although their capacities to do so will often need to be reinforced.

10.6 Evaluating impact

It is difficult to attribute and measure the direct impact of communications initiatives on promoting DRR and reducing risk. This is particularly the case with evaluating behavioural change. Shifts in knowledge and attitude can take place quite quickly and are relatively straightforward to assess. Changes in behaviour are slower to reveal themselves and it can be harder to identify them. There is also the problem of attribution: it is hard to tell how much people learned from a specific public information programme or project intervention, and how much from other sources. Other social, cultural or economic factors may have a strong influence on behavioural change – just as a range of external factors may prevent behavioural change despite the best efforts of a project. The ultimate test of success may be how people behave when a real disaster threatens or strikes.

Chapter 18 discusses M&E in DRR methods in more detail: many can be used to assess the impact of communications work as well. For example:

- Well-established ‘audience research’ methods can be used to find out how many people received particular information and what impact it had on their thinking and action. These include questionnaires, structured interviews and more qualitative in-depth interviews.

- Valuable information can be collected from informal and relaxed conversations with people receiving messages, or through more participatory initiatives. Direct observation of how (or if) people adopt risk mitigation measures can also be highly informative.

- Participatory communications approaches can be applied to evaluation. Folk drama or other community-based methods can be used to give people an opportunity to present their own views on an issue or on how well a project is doing. Focus groups are also commonly used. In the broadcast media, listeners’ letters and responses to quizzes and competitions provide useful qualitative indicators.

- Rather than carrying out large-scale surveys, it may be easier to work with less direct indicators, relying more on triangulation (cross-checking) of a number of simpler evaluation techniques. This is likely to be cheaper as well as faster, and indicators can be based on verbal or other evidence of change.

- The value of impact evaluations is limited if baseline data about attitudes and behaviour have not been collected.

Knowledge, attitudes and practice (KAP) surveys or studies, which are widely used in health and other programmes, might perhaps be applicable to hazard, risk and DRR communication, although it is not clear how much they have been used in this field. There are many ways of carrying out KAP surveys, with the general aims of generating information on current
knowledge, attitudes and practice; improving understanding of the key cultural and other socio-economic factors influencing behaviour; identifying appropriate communications methods and networks for stimulating changes; and designing awareness-raising projects on the basis of this knowledge.

10.7 Schools, disaster education and school safety

10.7.1 DRR education in schools

In many countries issues around health, safety, hazards, risk and the environment are incorporated into the formal education curriculum as a way of increasing children’s understanding of risk and teaching them how to prepare for hazardous events and react when they occur. Individual teachers may choose to introduce particular aspects that are relevant to their community. Schools also arrange educational visits to or by local emergency services. The potential value of the school-based approach is obvious. It can reach large numbers of people who are already gathered to learn and are essentially teachable. Children are believed to be more receptive to new ideas than adults and they can influence their peers and parents (see Chapter 5).

Nevertheless, projects working with schools should be realistic about what they can achieve. Ideally, DRR should be presented as a total package equipping children to deal with all hazard and emergency situations, which could be carried into a range of core curriculum subjects, such as science, geography and citizenship. However, this depends on being able to adapt the formal education system to incorporate a broad range of perspectives on disasters, such as adding an understanding of socio-economic vulnerability to conventional teaching about natural hazards. Where the curriculum is rigid and centrally imposed, this may be difficult to change without sustained advocacy.

In many low-income countries, where class sizes are large and teaching resources are limited, teachers may be reluctant or unable to do much to adapt the basic curriculum. The outreach of the formal education system itself may be restricted in places where there is a shortage of schools and trained teachers, attainment and attendance rates are low and certain groups, such as girls and children from poor families, are likely to drop out at an early age.

Emergency managers and national and local NGOs working on disaster reduction could probably be more active in visiting schools, talking to staff and pupils, developing educational materials, running workshops and giving technical advice and support to school preparedness initiatives. This could be through extra-curricular activities such as school assemblies, after-school clubs and competitions (see Case Study 10.4: DRR clubs). A more strategic approach would be to work with teacher training institutions to raise teachers’ awareness of the issues and ways of teaching them. Independent or small-scale initiatives may be adopted at higher level.
Box 10.6 Checklist of good practice in risk communication

1. Think strategically.

2. Plan and prepare carefully, with communities.

3. Devise a series of actions to build up awareness and mobilise communities in the long term.

4. Ensure that you understand how people process and evaluate information about hazards and risks.

5. Focus risk communication on changing behaviour rather than merely improving understanding.

6. Use methods of communication that are most acceptable to the communities concerned. Be prepared to spend time and effort to find out which methods are most suitable.

7. Adapt the information and communications method to the needs and tastes of each target group, and set priorities where you do not have the capacity to communicate with everyone effectively.

8. Ensure that technical information is presented in accessible formats.

9. Check that the materials or advice being given are comprehensible, credible and consistent.

10. Ensure that the actions suggested are feasible and that people will be motivated to act (and not panic).

11. Pre-test materials and methods to make sure they are effective.

12. Acknowledge the likelihood that apathy and information overload will affect people’s response to messages.

13. Acknowledge that people’s attitudes to hazard risks are influenced by other factors, such as cultural traditions or the need to maintain insecure livelihoods.

14. Provide interactive communication and pathways for dialogue, questions and requests for further information.

15. Reinforce the message over time, and add new information and ideas as part of an overall strategy.

16. Evaluate your work and share the findings with others.

Although there is widespread agreement on the potential value of schools initiatives, there has been little systematic evaluation of their impact. It seems that risk/hazards education at school does lead to more accurate perceptions of risk and better understanding of protective measures. It can also reduce fear of hazards (children appear to be worried about not knowing how to respond to an event). But it is much harder to evaluate children’s subsequent behaviour with regard to risk and risk reduction – still less, whether they have influenced the attitudes and behaviour of their families. It is difficult for educators and disaster planners to judge which approaches are most likely to work well in particular circumstances.

10.7.2 School safety

Disaster preparedness and response can be managed relatively efficiently in the controlled school environment. Teaching and practicing emergency evacuation drills in school does improve the speed and effectiveness of response. All schools should have their own risk and emergency management plans and procedures, including evacuation drills, and should test these regularly.

Sudden-onset hazards can be very dangerous where large numbers of students are collected together. Many school buildings are vulnerable because they are poorly constructed or located in hazardous areas. In 2008, more than 2,000 schools in Myanmar were destroyed by Cyclone Nargis, and in the same year an estimated 10,000 school students in China were...
killed by the collapse of school buildings in an earthquake.\footnote{M. Petal, \textit{Disaster Prevention for Schools: Guidance for Education Sector Decision Makers} (Geneva: UNISDR, 2008), http://www.unisdr.org/files/7556_7344DPforSchoolssm1.pdf.} Fire is a common hazard in schools, requiring safety precautions such as smoke detectors, sprinklers and evacuation planning and drills. As well as improving and expanding teaching and learning on DRR, therefore, safer buildings and school environments are needed. Every school should have an emergency plan and practice it regularly. Some countries hold regular regional or national practices: in Iran, for example, there is an annual earthquake safety drill for all schools.

Ensuring continuity of education in schools after disasters is a major challenge. Buildings may be destroyed or unsafe, teachers dead or injured, and text books, teaching materials and school records lost. Seasonal flooding in many countries forces schools to close down for weeks or even months, disrupting education. School disaster preparedness planning should seek to resume teaching as soon as possible after an emergency. This includes making sure that reserve sets of books and other essential items are kept in safe places.

DRR education and school safety planning should be connected as part of a coherent approach to reducing risk. School governors and managers should take a holistic view of school safety that covers teaching and learning on the subject of risk and disasters; relevant school policies, plans and procedures; the human, material, information and financial resources required; the siting and construction of school buildings; school events and activities; and the local environment (such as the safety of routes children use to get to and from school). They should also work with pupils’ families to promote awareness of safety issues and good practice.\footnote{J. Twigg, ‘\textit{Staying Safe}: A Conceptual Framework for School Safety’ (London: UCL Hazard Centre, 2011), http://www.ucl.ac.uk/hazardcentre/resources/working-papers2.} In many communities, schools serve more than one purpose. In parts of Bangladesh and India, for example, cyclone shelters double as schools or community centres during normal times. Children’s nurseries or kindergartens may grow food to supplement poor children’s diets, and their capacity to do so can be supported during times of food shortage or crisis.

**Box 10.6 Organisations, initiatives and networks for school safety and DRR education**

Coalition for Global School Safety and Disaster Prevention Education: http://cogssdpe.ning.com

Edu4drr: Effective Education for Disaster Risk Reduction: http://www.edu4drr.org

INEE: International Network for Education in Emergencies: http://www.ineesite.org