



Red Cross/Red Crescent Climate Guide  
**Disaster Management**

## Disaster Management

When disaster strikes the Red Cross and Red Crescent responds as quickly as it can to the maximum extent resources permit.

*Disaster response* has been a core function of the Red Cross ever since the 1880s, when the American pioneer Clara Barton published her pamphlet advocating assistance to victims of “plagues, cholera, yellow fever and the like, devastating fires or floods, railway disasters, mining catastrophes, etc.” as well as work in wartime.

Reducing the impact of future disasters through *disaster preparedness and risk reduction*, is a more modern concept and inevitably involves a certain amount of prioritizing.

But what if the future is radically different from the past? And in ways that cannot confidently be predicted? What if 21st-century climate change impacts mean not just more serious disasters, like more floods, but also unfamiliar ones, like “killer” heatwaves in northern Europe and two Category-5 hurricanes making landfall in the Americas in one season?

The sobering reality facing many National Societies around the world is that the whole field of *disaster management* – humanitarian action both before and after an event – may be changing rapidly in a process that took hold as recently as a decade ago.

The Red Cross and Red Crescent have traditionally focused on response. But now other aspects, including the relatively new concept of *risk reduction*, are also given priority in what is called the “disaster-management cycle”.

The International Federation’s 2002 *World Disasters Report* argued that preparing to respond to disasters is only part of “risk reduction”. “Where possible,” the report said, “measures to reduce the physical and human impacts of disasters must be taken”. In the Caribbean, where hurricanes are a fact of life, enforcing building codes is essential, as it is everywhere. In low-lying coastal states like Bangladesh, where disastrous flooding is already a fact of life, the provision of sturdy cyclone shelters becomes even more important.

The concept of “natural” disaster itself also throws up definitional issues, particularly in the age of “human-induced” climate change. “Disasters” (except industrial accidents), in fact, are just what happens when natural events such as earthquakes, tsunamis, storms, floods, droughts collide with people. And it is where and how they live that determines the scale of the disaster, not just the size of the “natural” hazard.

The relatively new concept of the complex disaster has also been identified: this might involve interlocking factors like unemployment, poverty, tuberculosis and extreme cold after the socio-economic collapse seen in parts of the former Soviet Union; HIV, drought and deforestation in southern Africa; or population growth, unplanned urbanization and intense rainfall events all around the developing world.

Climate change itself will create complex disasters: rising sea levels combined with more intense storms will lead to much more destructive storm surges, and droughts that are rapidly succeeded by floods and insect plagues will be more devastating.

Wang Huai Min sits on a make-shift raft that he uses to visit his submerged house during the July 2003 floods in China.  
Photo: Thorir Gudmundsson/International Federation



Another distinction often made to try to order priorities in the humanitarian world is between “sudden onset” disasters, especially seismic events like volcanoes but also climatic events like storms, flash floods and even heat waves, and “slow onset” disasters like drought and famine.

And yet a further major variable, of course, is the amount of *publicity* disasters get – often a function of how easily they can be covered by first-world TV crews. This is vital to the work of enlisting donors. Hurricanes get more publicity than most disasters, particularly when they affect the United States.

## The future will be different

The most recent scientific report from the Intergovernmental Panel on Climate Change (IPCC) said it is *likely* that future tropical cyclones will become “more intense”, with higher wind speeds and heavier rain.

The number of hurricanes in the North Atlantic has been above average in nine of the last 11 years, and the evidence suggests substantial increases in intensity and duration since the 1970s. Recent studies even show that on average about twice as many Atlantic hurricanes now form each year as a century ago. Yet the behaviour of hurricanes, and especially the track they follow over the surface of the Earth, is far from easy to predict.

It is important not to label individual extreme-weather events as “climate change”. Instead, we can recognize the trend of which they might be a part, and the rising general uncertainty and risk. Hurricanes are a good example. Possibly the only thing we know for sure: the future *will* be different from the past.

This was much the situation that confronted the Colombian Red Cross (CRC) when, towards the end of the record-breaking 2005 Atlantic season, Hurricane Beta bore down on the islands of Providencia and San Andrés in the Caribbean. Walter Cotte, the CRC’s veteran head of disaster response,



“The next emergency will just be the next rainy season”

**WALTER COTTE, COLOMBIA**

remembers it as a “turning point” for people’s attitude to new climate risks.

The National Society, fully integrated into Colombia’s national disaster response system, had been attending the emergency meetings as the hurricane approached and put its own branches on alert as soon as the authorities issued a storm warning.

“Hurricanes normally sweep north of us,” Cotte points out. “Climate change has become an issue now in the whole of Colombia’s Caribbean region – not just the coast itself – in a way it wasn’t before. And especially our islands, where people think they’re threatened and need to prepare.”

Never before had the Atlantic seen a total of 27 named tropical storms. The normal alphabetical list of innocent-sounding tags – *Arlene, Bret, Cindy, Dennis, Emily, etc.* – had to be extended in 2005 with Greek letters, starting with Hurricane Alpha on 22 October and ending with Tropical Storm Zeta which, for only the second time on record, lasted into the new year. The infamous 11th named storm of the season, of

course, had set a new record for economic damage and destroyed a US city: Hurricane Katrina. The trend seems likely to continue: the 2007 season was the first one on record to have two hurricanes making landfall as Category-5 storms.

So the big question facing the Colombians now is: how frequent will this new hazard prove to be? According to Cotte: “For ordinary people what they perceive as *variability* in the weather is the problem, rather than climate change as a trend.

“Our effort at the moment is focused on four areas: raising people’s awareness of climate change as an issue; acting as a facilitator for the work of private and public sectors and the local communities; helping deploy development aid at the local level in micro-projects relevant to climate change; and above all *advocacy* on behalf of vulnerable people.”

## Catalysing preparedness

Latin Americans have little choice but to manage climate-related disasters. The Caribbean and Central America lie in the Atlantic and Pacific storm belts. And mountains and intricate river basins generate lethal mudslides and floods. But also the reverse is happening: some regions face drought on an unprecedented scale.

Climate change is among the many socio-economic processes like land use patterns that increase the risk of disasters. Because of simple poverty, people in Latin America often inhabit cheap land that is prone to natural hazards, greatly increasing their vulnerability.

“I’ve been involved in disaster management in Colombia for a long time,” Walter Cotte recalls, “and I can say confidently that the last five years have seen a very sharp rise in the number of people affected by floods and the amount of damage they cause. No doubt. They happen more often and sometimes the two rainy seasons join up and make one!”

“Right now there are at least half a million people affected by floods in Colombia. It’s a big emergency but the national system can cope, for now. The real question is how to solve the problem for good. The next emergency will just be the next rainy season.”

In the Latin American context particularly, torrential rain and floods as well as earthquakes and volcanoes generate another indirect but no less deadly effect of weather extremes: landslides. Many millions of Latin Americans live in poor conditions in hazard-prone areas, at the foot of unstable mountains, along river banks or in low-lying areas liable to flooding. Urbanization and deforestation make the problem worse.

Precisely because of the growing vulnerability to weather extremes of Latin America and the Caribbean, work has begun to integrate the new awareness of climate hazards into the regular disaster management cycle in a programme funded by the Dutch lottery. The Red Cross is leading implementation in Guatemala, Nicaragua, Costa Rica and Colombia while “Free Voice” – a Dutch communications NGO – covers the Dominican Republic and Haiti.

The programme’s objective is to get across the idea that the future will bring new risks. There has to be better planning at every stage of the disaster-management cycle, better use of weather forecasts – a key component of any early-warning system, and better use of seasonal forecasts of hurricanes, droughts and El Niño/La Niña effects.

The key message: climate change *can* catalyse better disaster preparedness by encouraging the incorporation of new information and leading to more effective operations.

One community in Guatemala is among many who have taken this message to heart. The village of Santa Rosa, in the department of Chiquimila, has already been relocated once, before the second world war, because of the landslide danger. And when cracks started to appear in the hills above them the villagers, who survive mostly through subsistence

agriculture, realized the same thing might have to happen again.

The inhabitants of Santa Rosa are only too aware of the risks they face, and at their own request have now been included in the climate change project and are involved in the setting-up of a local disaster reduction committee and preparedness training.

## Indonesia: a disaster a day

On the other side of the world another intensely disaster-prone country presents a similarly daunting array of seismic, climatic and man-made risks: Indonesia.

The seismic risk in the Indonesian archipelago is legendary, as demonstrated by the devastating 2004 tsunami. Yet the risk of extreme *weather* is not to be underestimated either. On 8 May 2007, World Red Cross/Red Crescent Day, the Palang Merah Indonesia (Indonesian Red Cross) chose for its national focus “adapting to the consequences of climate change” to highlight the National Society’s work in disaster preparedness and risk reduction.

The PMI’s Bevita Dewi Meidityawati – speaking in June – remembers: “When I was in school I was told rain came between September and April and the dry time was from May to August. But it’s changing. We have just had a whole month of rain. Every five years we have a big flood in Jakarta. It gets bigger. The 2007 floods lasted longer and were more costly. In 2006 we had [weather-related] disasters every month.”

Putting together climatic and seismic disasters and man-made transport and industrial accidents, it is only a slight exaggeration to speak of a disaster a day in Indonesia.

Peter Rees, head of the operations support department at the International Federation in Geneva, points out that the International Federation has taken steps in response to the increase in disasters



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**ABDISHAKUR OTHOWAI ABDULLA, KENYA**

in recent years: “We have increased our investment in early warning systems and reinforced our contingency planning on a national level.

“We’re scaling up the pre-deployment of relief items, such as blankets and tents,” he adds, “and increasing the capacity of our Emergency Response Units, which are made up of teams of specialists on standby to be sent to disaster zones. With a changing climate, we need a stronger capacity to respond in an adequate and timely manner.”

## Complex disaster in Kenya

Kenya is one of many countries where climatic extremes – especially flood and drought – seem to overlap, then become embroiled with human factors like deforestation and migration to produce virtually permanent disaster conditions.

In 2007 the Kenyan Red Cross (KRC) began a major livelihood-recovery programme to support farming

and fishing families hit by massive floods at the end of 2006, just as they were still struggling to recover from severe drought.

Amidst the more familiar after-effects of flood, the price of food “soared beyond the purchasing capacity of many families,” according to Abdishakur Othowai Abdulla, KRC drought project manager and a vocal Red Cross advocate of climate preparedness in Africa.

In a phrase, he says, the weather is “upside down”.

“In the months that used to be rainy there may not be rain. The winters that used to be cold are no longer cold. When it rains it floods and that kills people. When it doesn’t rain there’s a drought and that kills people too.”

“The farmer will tell you that they plant and it doesn’t rain and they lose their seeds. After the crop has sprouted it is supposed to rain continuously until the crop matures, and when the crop matures the rains are supposed to stop. But it doesn’t happen like that any more. Or it may rain just before the farmer is due to harvest and the crop rots.

“Once people would have said this was an act of God, but it’s been going on for ten years they’re saying the weather has changed, the climate has changed. There is no single, normal season, no cropping season.

“Our policy now is to tell people that we have to adapt because this phenomenon will be with us for a very long time.”

One contribution the Kenyan Red Cross has developed is its ingenious “de-stocking” project. The National Society buys cattle in poor condition during drought and slaughters them for meat, enabling farmers to save the money they earn. Healthy cattle are then sold back to farmers once the drought abates.

Othowai Abdulla adds: “The traditional Red Cross role is blood, ambulances, giving people blankets

after disasters. But we also have to move to safeguarding livelihoods as well as lives.

“In all our work we are making livelihoods an underlying priority. Protecting livelihoods has to be part and parcel of emergency relief.”

## Disaster Management

### How-to guide

Disaster management (DM) is one of the core functions of many National Societies: saving lives and assisting people hit by disasters, as well as preparing to respond to future events and reducing people's vulnerability to expected hazards. Due to climate change, these National Societies will face more and larger operations, and disasters of a different nature, adding up to greater demands on their capacities. They may face increased health risks, diminished food security and water supply, and even increased migration and displacement.

Risk-reduction activities and early-warning procedures need to be adapted to the changing hazards, including the need to communicate them effectively to the people at risk. Although somewhat beyond the scope of most National Societies, increased efforts will also be needed for recovery and reconstruction from more frequent, more intense, more unfamiliar disasters.

But climate change also brings opportunities. It can and must act as a catalyst for better disaster management, especially because more people realize that we also need to invest in disaster preparedness to cope with the rising risks.

This section outlines how to integrate the changing risks

into regular DM operations. The guiding principle is *integration*: climate change is not a wholly new or separate risk, but one additional factor on top of many others that determine the disaster risk in a particular country or community. In that sense, climate change is mainly a *planning* issue. It affects priorities and plans, and may prompt the national society to increase its efforts or refocus its activities.

But the kinds of specific assets and activities needed to respond to or prepare for disasters – such as emergency stocks, shelters, community-based early-warning systems, communication tools or networks of volunteers – remain largely the same.

#### Step 1: Collecting general background information.

The first step is to know what you are dealing with. Understand the changing risks that your country may be facing. This is typically done as part of the national climate risk assessment (see *Getting Started: How-to guide, step 3*). Where possible, such information could also include risk maps of the country, identifying hazards and vulnerable areas. Also, when this is available, information from community-based Vulnerability and Capacity Assessments (VCA) could be included.

At this stage, the National Society should already have designated a focal point for climate change, who will be responsible for the integration of the changing risks into DM programmes, and who will be in charge of some of the planning in step 2.

#### Step 2: Assessing priorities.

Most National Societies' disaster management strategy will include prioritization of resources and target areas. Climate change should be factored in. This may sound complicated, but actually it is not. Once you have information on how risks may be changing (from step 1), you do not need complicated guidelines or external experts to tell you how to deal with the changing risks: your staff and volunteers are the experts in terms of the implications.

To start with, you should check your National Society's key DM plans. For instance, check the following questions using the information from the climate-risk assessment and possibly risk maps (see *step 1*).

On a strategic level:

- Are you prepared for the all disasters that can be expected?
- Are you prepared for them in all parts of the country?
- Are you focusing on the most vulnerable groups?

Local Red Cross workers were among the first on the scene in February 2006 after a landslide killed more than 1,000 people in the Philippine village of Guinsaugon. It followed torrential rain falling on the embankment visible in the distance. Photo: Rumulo Godinez/International Federation of Red Cross and Red Crescent Societies



- Are you aware of new diseases that may arise during disasters (see also *Health and Care*)
- Are you aware of new threats to food security?
- Are you aware of new potential conflicts, for instance due to increasing pressure on natural resources?

On an operational level:

- Are you making use of short-term weather forecasts, seasonal rainfall forecasts, and long-term climate change projections?
- Are you including the changing risks in training activities?
- Are you informing communities about the changing risks and taking them along in preparedness programmes?

If you are using the guidelines for a Well Prepared National Society, it would be good to go through these questions with your National Society's national climate-risk assessment in mind. Again, climate change requires nothing new; it just adds an additional element to your self-assessment.

These questions should be discussed in regular planning meetings involving the key DM staff. In some cases, the answers may just alert you to pay additional attention to some hazards in the context of what you are already doing. In other cases, it may be a reason to start new programs, for instance to increase the volunteer base. Among others, they may include the specific activities suggested in step 3, below.

### Step 3:

#### Action.

- *Enhancing preparedness to respond.* Response capacity may need to be adjusted to account for new and rising risks due to climate change. Activities should be planned using regular National Society and International Federation tools, such as the Disaster Management Information System (DMIS) and your national climate-risk assessment. This may include modifications to things such as contingency planning; location and number of warehouses with response and relief stocks and mobilization and training of a sufficiently large volunteer base.
- *Enhancing disaster risk reduction.* For many National Societies, true risk reduction is strongly rooted at the community level (see the module *Community risk reduction*). In some National Societies, larger risk reduction programmes, such as mangroves along the coast of Vietnam to reduce the risk of flooding, have been very successful. In many cases, similar solutions will be effective to address the rising risks from climate change. Keep in mind that vulnerability to climate change is often caused by many factors, such as people living in unsuitable places, deforestation and destruction of beaches. Addressing these underlying factors can then help to reduce the impacts of the rising hazards.
- *Enhancing food security programmes.* Climate change affects people's livelihoods

and food security, directly by changes in temperature and rainfall patterns, or through changes in extremes. Food security programmes should take account of the way climate change may affect the risks facing vulnerable parts of the rural population. Simple solutions may be available, such as drought-resistant crop varieties or even changes in soil management practices. Again, the background information collected in your National Society's national climate risk assessment should contain the key information, which can then be integrated in planning documents for food security programmes and early warning.

- *Enhancing early warning.* As the climate changes, people may find that they can no longer "trust" the weather or recognize hazards as they used to. This creates an additional need to use weather forecasts better – at the National Society planning level and also by communicating them to communities at risk and ensuring that people really understand and trust the information. Be mindful of the chain of efficient early warning: risk knowledge, monitoring and warning services, dissemination and communication, response capability of people at risk. Climate change does not really alter the way a National Society should organize such chains. But it does increase the importance of such activities in the face of rising uncertainties about the weather.

Regular weather forecasts are provided from hours up to two weeks in advance. In recent years, the quality of so-called seasonal forecasts (one to six months of lead time) has also improved tremendously, for many regions. While they are not infallible they can really help a farmer know whether a rainy season is more likely to start late or be relatively dry (see *box on page 50*). Besides the forecasts of temperature, rainfall and storms, many institutes also provide forecasts for specific threats, such as the risk of health epidemics, locusts or food security problems.

Make sure you are aware of such information for your country. The national meteorological office may be a good starting point, and the Climate Centre can also help you identify the right institutes for your region. At the global level, the DMIS also provides a number of monitoring tools and links.

- *Enhancing advocacy and partnerships.* Effective DM requires close cooperation with governments and many other actors, including other emergency-response agencies. Specific guidance on advocacy and partnerships is included in the module "Dialogues".
- *Enhancing awareness-raising among vulnerable groups.* Awareness raising about new risks can be a key role of the National Society, using its network and trust at the

community level. Methods may include drama, school programmes and media. Specific guidance is included in *Communications*.

- *Capturing local information.* Complementing awareness raising by telling communities what is known about changing risks at the national and global level, the National Society should also listen to local perceptions and observations of changes in the weather (see *Community risk reduction*). Such information can be an invaluable planning tool, particularly in areas where scientific data and analyses are scarce and of poor quality.
- *Enhanced training.* Regular DM training for staff and volunteers needs to include information on the way risks are changing. The Climate Centre can provide standard formats and presentations, which you will need to adjust to your circumstances.

### Step 4:

#### Evaluation

At least once a year, National Societies should evaluate the risks they face. This process needs to be continuous. Have new and/or unusual disasters been occurring? New diseases, new conflicts? New reasons for crop failure and food insecurity? How has the National Society dealt with them? Any need to update plans, start new activities, recruit more volunteers?

Such questions immediately refer back to steps 1 and 2: updating

background information, and assessing priorities.

In addition, National Societies should document success stories. For instance, if awareness about climate change has helped to recruit new volunteers in one district, such a strategy may also work in other parts of the country, and even in other National Societies. The more such examples are shared and replicated, the faster we will be able to expand our coverage in dealing effectively with the changing risks.

#### Checklist

- Ensure your National Society has a climate change focal point who can coordinate the integration of climate change into DM activities.
- Assess your National Society DM plans and programmes in the light of your national climate-risk assessment, and establish priorities. (What needs to be done differently? Where do we want to focus?)
- Act!

#### Pitfalls

Don't get overwhelmed by the many aspects of climate change. Just get started by realizing that the past no longer explains the future. Planning for climate change is not something new and complicated – at all times it should remain rooted in your own priorities and understanding.

#### Opportunities

Climate change can be a catalyst for better DM. It may help to take a fresh look at your plans and

programmes and integrate new information and vulnerabilities. It may also make it easier to mobilize new volunteers and establish partnerships with governments, donors and other stakeholders.

The Red Cross and Red Crescent is well placed to address risk related to climate change. Climate change is a global problem with local impacts. The Red Cross and Red Crescent is present at global, national and above all local level. Tuning at all these levels can lead to good results in protecting the most vulnerable people.

#### Further information

All information from this guide is available at [www.climatecentre.org](http://www.climatecentre.org), including updates and links to relevant documents and sources of information, checklists, templates and best-practice examples.

The main source of general information on disaster management for the Red Cross and Red Crescent is the International Federation's Disaster Management Information System at [www.ifrc.org/dmis](http://www.ifrc.org/dmis), to which all Red Cross/Red Crescent staff have access. This system contains information on monitoring, preparedness, and response, as well as a toolbox with detailed guidance and information on policies and procedures.

More general operational information, including appeals, information bulletins, operations updates and websites, can be found at [www.ifrc.org](http://www.ifrc.org)

Good examples of early warning projects can be found at: [www.unisdr-earlywarning.org/ewpp](http://www.unisdr-earlywarning.org/ewpp)

Store employees install shutters for Hurricane Jeanne in Florida, USA. Photo: Reuters/Marc Serota

