

Case Study

Taking the edge off extreme-weather impacts

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Ebinat, Ethiopia: seemingly endless drought and deforestation mean fuel for cooking is in short supply. High-efficiency wood-burning stoves supplied by the Red Cross have made life easier for these villagers. (Photo: NLRC)

The backdrop

Last year, 2010, saw record-breaking disasters all over the world, in rich and poor countries alike. One of the most memorable was Pakistan's aptly named monsoon "superflood", which turned its Upper Sindh region into an inland sea. Severe heatwaves hit much of the northern hemisphere, especially, and perhaps got most publicity in Russia, where by one estimate as many as 56,000 people died in the combined smog and heat.

More recently this year, in areas as far apart as Central America and Thailand, where the capital Bangkok was threatened, they were clearing up after catastrophic floods. The US suffered several hugely expensive disasters, from flooding in the Mississippi and Missouri Rivers to Hurricane Irene and a drought in Texas.

The partly drought-based disaster in the Horn of Africa, which has been ongoing for much of 2011, showed little sign of abating but was punctured in some areas by flash floods – typically for that region where people are ill-equipped to "harvest" the rains. And indeed, weather-related disasters continue to dominate the statistics.

In 2010, in simple terms, floods and storms remained by far the most common disaster, affecting by far the largest number of people, though earthquakes (including tsunamis) were much more lethal.

So are climatic disasters getting worse?

A generic answer to such a question about “disasters” as a whole is still difficult. But a summary of a new report on weather extremes (“SREX”) by the Intergovernmental Panel on Climate Change (IPCC) that has been launched provides specific guidance on how these extremes can be judged over the next few decades. Once approved by the world’s governments, the SREX will provide a solid foundation for climate-smart policies on managing risk from extremes and climate-related disasters.

West Africa Floods

Lessons learned, lives saved

Disaster managers all over the world remember 2007 as the year of the floods: some countries saw their heaviest rain in living memory. In Africa, above all, a vast swathe of territory from the Atlantic to the Red Sea experienced very serious flooding, with the waters not so much damaging defenceless rural communities as washing them away altogether. Malaria, diarrhoea, cholera, Rift Valley Fever, and food shortages followed. But after the lessons of that year had been absorbed, preparedness was raised to a level from which it has not since fallen back.

Concerned about the long-term implications of climate change for the region, particularly after being caught off guard by the devastating floods in 2007, the International Federation of Red Cross and Red Crescent Societies (IFRC) regional office started to look at changing risks and ways to better manage them. Scientific information on long-term trends in extreme rainfall in this part of the world turned out to be highly uncertain. However, the IFRC disaster managers realized that even such uncertainty indicated a rise in risk. They decided to further emphasize their focus on disaster preparedness, but also to build capacity to interpret climate information at shorter timescales, such as for the upcoming rainy season.

And indeed, when in May 2008 these forecasts signaled a heightened chance of above-normal rainfall during West Africa’s July–September rainy season, the IFRC and the National Societies in the region were eager to respond quickly, leading the IFRC to issue its first ever flood-preparedness emergency appeal based on seasonal forecasts. The IFRC West Africa office helped develop contingency plans for the floods that another season of intense rainfall could bring, and held training events throughout the region beginning in June. Then as the rains began, the IFRC requested funding for preparedness activities in four West African countries. Although donor money did not materialize until August, it was able to make use of internal emergency funds to initiate relief work.

As a result, communities were better prepared. The advance positioning of stocks allowed National Societies to meet beneficiaries' needs for shelter, cooking supplies, water and sanitation within 48 hours – as opposed to the 40-day delay between disaster and response in the 2007 West Africa-

Their response was better and faster because they got forecasts *early*

floods. This also allowed the Red Cross to reduce the cost per head of its response to one third that associated with 2007 operation.

Heavy rain in July 2008 caused Togo's River Plateaux to overflow, sending water gushing into the Jio, Ao and Yoto tributaries. More than 10,000 households were affected, including in the capital Lomé. In Togo, an especially vulnerable West African flood country, more people were affected by the 2008 floods, and in more densely populated areas, than in 2007. Yet data suggests fewer died in 2008 than the year before: 16 deaths against 25. The Togo Red Cross said their 2008 response was better and faster because they received forecast information *early* from the African Centre for Meteorological Applications for Development via the Federation zone office in Senegal.



Eseta Lauti, President and Secretary General of the Tuvalu Red Cross, outside her office in Funafuti. The Red Cross in Tuvalu is a key player in the battle against drought in the Pacific island nation. (Photo: Rob Few/IFRC)

Tuvalu drought

Red Cross helps 'avert' catastrophe

The Pacific island nation of Tuvalu depends on rainwater for most of its drinking water, but in 2010 and 2011 it was hit by a prolonged drought. Scientists have observed that some areas in the world often suffer droughts during La Niña events, while others experience above normal rainfall and increased flood risk.

The Tuvalu Red Cross had been among the first to assess the potential implications of climate change, and linked it closely to its disaster risk reduction work in communities. The Red Cross also strengthened the links to its National Meteorological Office, and became more aware of climate information on different timescales.

At the international level, the IFRC and the International Research Institute for Climate and Society have been issuing user-friendly seasonal forecasts, in this case through the IFRC regional office for the Pacific. They carried seasonal information for the next three months, helping Pacific Red Cross societies predict how, together with other factors in the climate system, La Niña was likely to affect them. Both in 2010, and again when La Niña re-emerged in 2011, central Pacific island nations were advised to develop their national drought plan, keep a watch for impacts that would trigger the plan, and conduct basic hygiene awareness programmes for hand washing and water conservation. For others dealing with heightened flood risks, National Societies were urged to top up disaster-relief stocks; monitor water and food quality as well as access to safe water, sanitation, drainage, health education, and hygiene promotion; strengthen early-warning systems; and identify the most vulnerable communities.

In Kiribati and Tuvalu, where the projection was for drier than normal conditions, *ahead* of the 2011 drought the information also prompted preparedness activities that would otherwise not have taken place.

By the end of September, the Tuvalu government had declared a nationwide state of emergency amid a critical shortage of water after desalination plants broke down. The preceding past 12 months were the second-driest period in the nearly eight decades that records have been kept on Funafuti – Tuvalu's capital atoll, where more than 5,000 people were severely affected.

"This is the third consecutive year that we have received below average rainfall in Tuvalu," said Tataua Pese, secretary general of the Tuvalu Red Cross Society. "The drought is likely to continue into December as meteorologists have forecast very little rain until then."

Some communities were rationed to 40 litres a family per day – for most families far below the international Sphere standard of 15 litres per person, although exceptions were made for large families and those with babies.

Red Cross volunteers delivered water containers and 10,000 litres to the communal water tank in Nukulaelae atoll during the first assessment there. The New Zealand Red Cross sent two relief delegates and two emergency desalination units to Nukulaelae, where they were operating at full capacity within three hours of arrival.

News reports from Tuvalu said the situation was aggravated because the natural wells to which people normally turned during droughts were contaminated by salty groundwater –a potential consequence of sea level rise associated with climate change. But the Red Cross, reporters said, along with the governments of Australia, New Zealand and the US, had “averted a catastrophe by rushing in supplies of bottled water and desalination plants.”



Daili Rodriguez, a Colombian Red Cross volunteer, with Wayuu youngsters in the new San Tropel village, built under Red Cross supervision to house people displaced when the sea swallowed their old homes. (Photo: Alex Wynter/IFRC)

Colombia: ‘unimaginable disaster’

A climate-impacts lab for the 21st century

Colombia, a modern climate “lab”, faces a dizzying array of extreme-weather impacts (not to mention seismic risk): drought alternating with flood; the spread of malaria and dengue fever as the wet, warm mosquito-zone expands; more destructive storms; and – in some locations – super-fast coastal erosion (see *Climate Essay, back page*).

After what was described as the most intense rainy season in the country’s recorded history affected almost all Colombia’s 32 provinces in 2010–11, nearly three quarters of a million people were directly affected in a flood disaster that a member of the government called “unimaginable”.

“More than four million people in Colombia have been affected by floods or landslides over the past two years,” says Walter Cotte, the secretary general of the Colombian Red Cross and one of the most experienced disaster managers in the Red Cross Red Crescent Movement.

He adds: “It’s cumulative. Now something like ten per cent of our entire population is directly involved, and these people need a lot of support from us. Not only on the emergency side but also how to manage early-warning systems, and deal with evacuations.”

One location in Colombia where they hope Red Cross early-warning systems and drills are already saving lives is the town of Villanueva, at the foot of the towering Sierra de Perija in La Guajira

province. Villanueva (population 20,000) is acutely vulnerable to flash floods that come crashing down from the mountains above – until recently quite without warning.

Now a Red Cross river-level gauge installed a short distance upstream triggers powerful sirens that gives people in the town below about ten minutes' warning of approaching flash-floods. They have gone off five times since installation three years ago. There may be no other warning of the potentially lethal floods – there can be torrential rain in the mountains while skies are completely clear above the valley below.

La Guajira also includes the small peninsula that juts out into the Caribbean – the most northern extreme of continental Latin America. The vulnerable-looking geography of the department somehow makes it seem less surprising that this part of Colombia's

The sea has been advancing
at some 20 metres a year

Caribbean coast should suffer dramatically high levels of coastal erosion that strikes at both the strong and the weak alike. Every year, the Chevron Company, whose processing plant is on the shore, has to replace a line of huge sandbags that are now the only thing keeping the waves at bay.

The Red Cross, meanwhile, has supervised the total reconstruction of the indigenous Wayuu village of San Tropel, 30 kilometres north of the department capital, Riohacha, after the original settlement was swallowed by the sea, which has been advancing at a rate of some 20 metres a year.

The early warning system in Villanueva and the San Tropel village are components of the climate-oriented network of Disaster Risk Reduction (DRR) work undertaken in Colombia as part of the 2007–11 Netherlands Red Cross-supported “Pledge Project”. The rebuilding of San Tropel, completed using traditional materials and methods in September 2010, was intended to specifically address the changing climate risks this village will continue to face, and as such is the first settlement of its kind in Colombia.



A young Senegalese boy picks his way through flooded streets in Diamaguène Diaksao, near Dakar. The IFRC West Africa zone office in the city has been a key player in the development of the “early warning, early action” approach to the management of climate extremes. (Photo: Ricci Shryock/IFRC)

How we work

Strategy 2020 voices the collective determination of the International Federation of Red Cross and Red Crescent Societies (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.

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Saving lives, changing minds.



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

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