

Early warning > Early action

# The International Federation's Global Agenda (2006–2010)

Over the next two years, the collective focus of the Federation will be on achieving the following goals and priorities:

# Our goals

**Goal 1:** Reduce the number of deaths, injuries and impact from disasters.

**Goal 2:** Reduce the number of deaths, illnesses and impact from diseases and public health emergencies.

**Goal 3:** Increase local community, civil society and Red Cross Red Crescent capacity to address the most urgent situations of vulnerability.

**Goal 4:** Promote respect for diversity and human dignity, and reduce intolerance, discrimination and social exclusion.

# **Our priorities**

Improving our local, regional and international capacity to respond to disasters and public health emergencies.

Scaling up our actions with vulnerable communities in health promotion, disease prevention and disaster risk reduction.

Increasing significantly our HIV/AIDS programming and advocacy.

Renewing our advocacy on priority humanitarian issues, especially fighting intolerance, stigma and discrimination, and promoting disaster risk reduction.

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# Early warning > Early action

Routinely taking humanitarian action *before* a disaster or health emergency happens, making full use of scientific information on all timescales.

The Red Cross/Red Crescent answer to rising climate risks

When disasters strike, Red Cross Red Crescent volunteers are often among the first to provide relief to the victims. But in most cases, we can save more lives and reduce more suffering if we can act before a disaster. We have known for decades now that it is much more effective to evacuate people before a flood than to rescue people during the flood, or to provide relief to its victims. It is also much more effective to support farmers to find alternative livelihood options than to provide food aid when the harvest has failed. The Red Cross Red Crescent is investing more into people-centred *early warning* systems so that their *early action (preparedness and mitigation/prevention)* are suited to face the rising risks of extreme weather events as a result of climate change.

# Early warnings abound

Fortunately, thanks to remarkable advances in science and technology, we have access to a wide range of early warnings. Global computer models and satellite images, regional centres of expertise, national meteorological offices and other government agencies, local field reports and community observations all allow us to better understand what is happening, and what is likely to happen given what we have learned so far. This allows us to anticipate climate-related threats much better than before. At the shortest timescales, a warning of an impending storm can help communities prepare and take immediate actions such as evacuation to reduce the loss of life. At intermediate timescales, a seasonal forecast based on *El Niño* may give us a heads up that the upcoming storm season could be particularly severe, or that a continuing drought could result in food scarcity. At the longest timescales, future climate change scenarios present an early warning of increasing hazards which, along with trends such as urbanization and population growth, give a new analysis of risk.

At each end of this temporal scale, disaster risk is the interaction between hazards (cyclones, storms, droughts, etc) and the vulnerability of communities. Both of these elements are constantly changing. Climate change causes the frequency, intensity and location of hazards to change. Phenomena such as urbanization, poverty, population growth and disease continuously alter the nature of vulnerability. For the Red Cross Red Crescent, disaster risk reduction is not just an effort to produce detailed risk maps but more a means to continually understand the evolving nature of hazards and vulnerabilities and to take action to tackle vulnerability and it underlying causes.

# Early action

An early warning has no effect without early action. Numerous examples illustrate how reliable information about expected threats was insufficient to avert a disaster, including Cyclone Nargis, Hurricane Katrina, and the food crisis in Niger.

At the shortest timescales, that action could be evacuation. On the longest timescales, early action means working closely with local communities to assess and address the root causes of the changing risks they face. Houses on stilts, planting trees against landslides, dengue awareness and prevention campaigns, water catchment systems and millions of other risk reduction measures can be taken. Early action also includes updated contingency planning and volunteer mobilization. In terms of geographic range, early action can take various forms: If a large flood is expected, at the most local scale a community can protect its main water well from contamination. At country level a National Red Cross or Red Crescent Society can update its contingency plans. Internationally the International Federation of Red Cross and Red Crescent Societies can mobilize human and financial resources ahead of the disaster to assist the National Society in reducing the impacts and even preventing loss of life altogether.

The more we act upon the warnings on the longest timescales, by identifying communities at risk, investing in disaster risk reduction, and enhancing preparedness to respond, the more lives and livelihoods can be salvaged at the shortest timeframes when a flood does arrive. Similarly, better links to global and regional knowledge centres and standardized procedures to get the information to the right place will facilitate more effective action at the most local level.

# Guiding principle 1: Prepare for the certain and the uncertain

It is certain that climate change is happening and will lead to more weather extremes melting glaciers and sea level rise. That in itself is a strong incentive for increased early action through disaster preparedness. We have long helped communities to prepare for the threats they know. Climate change requires us now to help prepare communities for threats that are unpredictable in both severity and nature.

The focus of our preparedness effort will be on increasing public awareness of the rising disaster risk; organising communities to respond and recover better from disaster; improving community resilience to reduce the impact of disaster shocks and developing external partnerships with knowledge centres, governments and other civil society organizations to address the increased risks.

To be more precise on the exact impacts of climate change is difficult. Typically, the longer in advance a warning appears, the less precise it will be. A few hours in advance, we usually know quite well where and when a large storm will hit. However for such a warning to be actionable, investment must be made well in advance to create a comprehensive emergency management system. With a warning period of a few days, a storm forecast leads to immediate disaster preparedness action – identifying evacuation routes, evacuation centres, protecting assets and mobilizing community organizers for immediate response. However, a longer term warning (months or years in advance) of the changing

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nature of storm risk allows us to expand our disaster risk reduction actions, including helping communities plant trees to stabilize hillsides, organizing themselves to respond better to warnings, building storm-resistant houses or advocating for constructing storm shelters. Knowing that a risk is higher than normal demands a higher level of investment in preparing capacity to take early actions that will be useful regardless of when and where the disaster strikes.

Using such risk information may also mean that we sometimes get it "wrong" – for instance when a forecast predicts an 80 per cent likelihood that there will be hurricane-force winds in a certain time and place. We know that while very likely to happen, there's no certainty. Indeed, for 20 per cent of these cases, we actually expect the predicted condition to not happen. We should not hide that uncertainty when we promote early action: an honest description of what we know and don't know about the future should be a key component of our communication to all stakeholders, and an important consideration in how we assess and address the risks.

Early warnings are irrelevant if they are not received, understood and trusted by those who need to act. New sources of scientific information provide us with new opportunities, but also continuously raise questions. What does it mean to have a higher level of risk? Should the National Red Cross Red Crescent Society act, or wait? When does the risk get so significant that we need to put the Red Cross Red Crescent in motion on early action? There is a need to transform scientific information, which is often complex and in the form of maps or percentages, into simple and accessible messages that would allow people at risk to make sensible decisions on how to respond to an impending threat. This requires firstly a continuous dialogue through collaboration between Red Cross Red Crescent staff and knowledge centres at national, regional and global levels. It also requires expanded investment in disaster preparedness at all levels – community, local and national. Only with such an investment can the risk knowledge produced by specialized centres be made available to vulnerable people exposed to increased climate change disaster risk. Even then, for that information to be effective, communities need to have the resources and capacities necessary to respond and react to it. Good communication is one thing, having the ability to use the information is another.

Example 1: flood	Example of early warning	Example of early action
Years	Increasing risk of extreme rainfall due to climate change Increasing risk of extreme rainfall due to climate change	Continually update risk maps and identify changing vulnerable groups, recruit additional volunteers, establish new areas of work, work with communities to reduce risk through concrete actions like reforestation, reinforcement of houses, etc.
Months	Forecast of strongly above-average rainfall for the coming season	Revisit contingency plans, replenish stocks, inform communities about enhanced risk and what to do if the risk materializes, e.g. clear drain.
Weeks	High ground saturation and forecast of continued rainfall leading to high probability of floods	Alert volunteers and communities, meet with other response agencies to enable better coordination, closely monitor rainfall forecasts
Days	Heavy rainfall and high water levels upstream, likely to result in floods	Prepare evacuation, mobilize volunteers, get warnings and instructions out to communities at risk
Hours	Flood water moving down the river to affected areas	Evacuate

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Example 2: Cyclone/ hurricane/ typhoon	Example of early warning	Example of early action
Years	Increased risk of cyclone intensity Unpredictability of cyclone season Unpredictability of cyclone belt	Prevention/mitigation: Continually update risk maps, promote and build cyclone proof housing/shelters, advocate for strict building codes  Preparedness: Raise awareness on cyclone risk, organise and train community for disaster response, identify changing vulnerable groups, establish early warning communication systems
Months (seasonal)	Forecast of above-average cyclone activity for the coming season	Preparedness: Revisit contingency plans, replenish stocks, communicate enhanced risk and test contingency plans with simulations and drills
Weeks	Forecast of likely development of cyclones in a particular stretch of ocean	Preparedness: Alert National Society, pay extra close attention to potential storm warnings
Days	Forecast of a cyclone that is likely to hit a stretch of coast (but not yet where it will make landfall)	Preparedness: Prepare evacuation, mobilize volunteers, get warnings and instructions out to communities, storm proof houses, check emergency kits for batteries, torch, food supplies, radio etc.
Hours	Cyclone warning: cyclone is about to hit your city	Preparedness: Evacuate to storm shelters

Example 3: malaria	Example of early warning	Example of early action
Years	Rising risk of malaria in areas that were malaria free in the past, due to rising temperatures	Prevention/mitigation: Continually update risk maps, build community health infrastructure, advocate for/build surveillance mechanism  Preparedness: Identify changing vulnerable groups, train health workers/volunteers, and develop sustained health campaigns
Months (seasonal)	Forecast of enhanced risk of malaria outbreaks in particular areas, based a.o. on rainfall and temperature (as observed and forecast for the coming months)	Preparedness: Coordinate with government and WHO to update contingency plans, prepare local health and care facilities, sensitize communities about enhanced risk, distribute bednets
Weeks	Reports of malaria outbreaks in a particular region	Response: Facilitate access to treatment and continue to sensitize communities to use bednets

# Early warning > Early action

The Red Cross/Red Crescent answer to rising climate risks



The climate is changing and communities in some countries are already feeling the heat. Climate information in the form of trends and forecasts, combined with tried and tested disaster risk reduction measures, can help anticipate disasters before they happen and enable communities to prepare for and cope with them. For this approach to succeed, partnerships must be strengthened between the humanitarian sector and those working in the field of climate change. National Societies in the Asia Pacific region have been showing the way in this important area.

"People have always dealt with disasters like firefighters, as if the risks were completely unavoidable," writes Youcef Ait-Chellouche, disaster-management coordinator at the International Federation of Red Cross and Red Crescent Societies' Dakar zone office. "After the emergency, with the job done, the brave firemen go back to the station, applause ringing in their ears, to wait in 'stand-by' mode for the next alert."

For decades however, we have developed ways to prepare for, mitigate and prevent disasters, and the loss of life. The following case studies indicate how early warnings and early actions can make the difference between life and death. They also show times when insufficient resources and investment in disaster risk reduction cost lives and livelihoods.

Now the International Federation and the International Research Institute for Climate and Society (IRI) at New York's Columbia University, which specializes in integrating climate information into decision-making, have formed a partnership that should allow the Red Cross Red Crescent network to be mobilized for early action.

"We try to provide the International Federation with weather and climate information in context," says Molly Hellmuth, its focal point at IRI. "We can help the Red Cross Red Crescent spot climate anomalies and put them into language the International Federation's whole network can understand," she adds.

There's nothing new about "early warning and early action", of course. What is new is the use of this approach in the field of disaster management, which has been witnessing a significant increase in climate-related disasters, and increasingly seeking – and basing its decisions on – sophisticated weather predictions provided by research institutions. Climate information is not enough, however – disseminating early warnings to individual households is essential for early action, and for covering the last mile to inform and protect people.

# Floods in Africa

# Southern Africa: The power of early action

"If only the donors would fund risk reduction," said the British charity worker, sipping a cold beer at Beira airport one sweltering evening in January 2008, "we'd be doing this more often." A flood disaster in Mozambique's Zambezi valley had just been avoided and aid agency staff members were on their return flight to the capital, Maputo. Had it not been a prompt and extensive evacuation from the Zambezi, Buzi, Pungue and other river valleys in Mozambique – there would have been a major disaster, and it would have cost hundreds, and possibly thousands, of lives. The story, while proving yet again that risk reduction does pay off, would not get the attention it deserved – disaster is news, disaster averted is not.

Risk reduction – as opposed to quick-impact, high-profile response – has long had a reputation of being hard to fund. Government donors answer to their taxpayers and need to be able to demonstrate impact. And it can be difficult to show impact when a disaster has been averted. Yet, thanks to risk reduction measures, the Mozambique Red Cross was able to take effective "early action" in response to "early warnings" in December 2007 – that the Cahora Bassa dam on the Zambezi river was increasing its discharge rate to 4,450 cubic meters per second and that the Buzi river to the south was only a metre below "critical" level.

The Mozambique Red Cross did not let a moment go wasted. Thanks partly to a cash grant from the International Federation's Disaster Relief Emergency Fund (DREF), the National Society's aquatic-rescue team replenished its stocks of fuel and quietly dovetailed a detachment of Mozambican marines, completing the bulk of evacuations in the Buzi river basin even before the end of December and proving yet again that disasters need not be disastrous. But this was only the first part of the story. By the end of January 2008, tens of thousands of rural Mozambicans had moved to tented resettlement centres or in self-built huts in villages whose populations had more than doubled overnight. Safe drinking water, food, health and livelihoods all became urgent priorities, which the Mozambique Red Cross was able to meet with support from the International Federation's regional emergency appeal for five million euro.

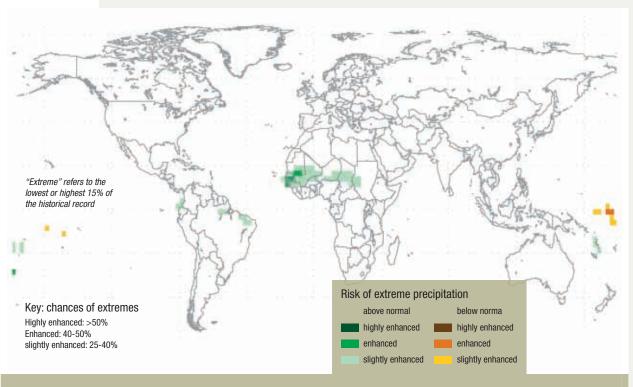
# West and Central Africa: The power of early warnings

In 2007, some of the worst floods in decades swept across 20 African countries stretching from the Atlantic coast to the Red Sea. Just one year later, West and Central Africa was again under the threat of wholly predictable monsoon rains.

In May 2008, the International Federation's West and Central Africa Zone office called on its new partnership with climate professionals on both sides of the Atlantic – including the African Centre of Meteorological Applications for Development (ACMAD) – to try to prevent history repeating itself. ACMAD – as other climate centres – issued warnings of "wet and very wet" conditions, which were quickly confirmed by a series of flood events in West Africa (see Maps, back cover).

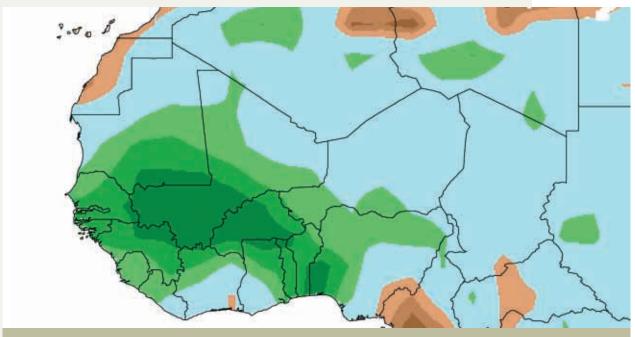
When Youcef Ait-Chellouche, the International Federation's disaster management coordinator, noticed that all the relevant meteorological sources had converged on the same forecast – for above-average rainfall in essentially the same countries that were flooded in 2007 – he acted quickly. A wholly pre-emptive appeal for regional flood preparedness was issued on 11 July 2008 – the first of its kind. For nearly 750,000 US dollars, the International Federation would take early action on seasonal forecasts, by supporting National Societies for action during disasters, especially with relief stocks positioned in Dakar, Accra and Yaoundé.

### West Africa 2008: the seasonal forecast...



Multi-model probability forecast of extreme precipitation for June–August 2008, issued May 2008. (Source: IRI)

# ...and what happened



Observed rainfall for July-August 2008. Brown shading indicates the drier than average areas, green shading the wetter areas. (Source: IRI)

# **Hurricanes in the Caribbean**

The 2008 hurricane season showed steady progress in heading early warnings and taking early humanitarian action in the Caribbean. Caribbean Red Cross societies and their partners were better prepared than ever, and succeeded in saving countless lives – despite the tragedies witnessed in Gonaives and other Haitian towns.

# Caribbean: Early warning and expecting the expected

When disaster managers from Caribbean Red Cross societies sat down for a pre-season meeting in Panama in June 2008, they knew weather experts foresaw a potentially very dangerous few months. All the climatic elements for a "highly active" hurricane season were in place according to the US National Oceanic and Atmospheric Administration (NOAA), and up to nine hurricanes were predicted – at least two of them major ones.

Immediately, Caribbean Red Cross societies completed their regional contingency plans, outlined their pre-positioned stocks, resources and personnel, detailed their response strategies, and organized pre-landfall coordination meetings. And the predictions proved correct.

Each storm wrote a paragraph in meteorological history: Alma was the first Pacific storm on record to strike the west coast of Nicaragua, Arthur, the first Atlantic storm to form in

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May for more than 30 years. Colliding together over Belize, these two storms dumped an astonishing 260 millimetres of rain in a day and a half – causing serious floods and confirming one of the starkest consequences of climate change, the need to expect the unexpected. "We're accustomed to floods," said Fred Hunter, chief disaster coordinator at the Belize Red Cross. "But this was three or four days into the rainy season and we expect the ground to soak up the water for a month or two before we start to get any big floods. "It caught us totally by surprise... and the area where most of the damage was done has never flooded that much before."

# Haiti: The price of insufficient early action

Haiti was struck by not one but four storms: Fay, Gustav, Hanna and Ike, the last three of them hurricanes. In the final week of August, with Gustav bearing down on them, the Haitian Red Cross board met in an emergency session while local branches gathered weather reports from communities and began mobilizing volunteers. "Haitian Red Cross workers plotted and re-plotted landfall scenarios for Gustav to decide how to use their scarce resources to save as many lives as possible," says Xavier Castellanos, the deputy head of the International Federation's Americas zone, who got to Haiti just before Gustav struck.

While volunteers did not have sufficient tools to sound warnings and alert communities to evacuate – they did manage to save many lives. "Volunteers worked around the clock before and after these storms hit," says Guillermo Garcia, regional director for the American Red Cross, which has a base in Port-au-Prince. "They carried out evacuations and search and rescue, assisted with government-run shelters, provided first aid, assessed damage, and distributed relief supplies." According to Jean-Pierre Gueatou, executive director of the Haitian Red Cross, "We had volunteers and personnel from the civil defence working on the evacuations. At least 6,000 people took shelter."

But resources, and investments in disaster risk reduction, were not enough to prevent disasters. Nearly 800 Haitians died, more than half in Gonaives, the desperately vulnerable north-west coastal town that sits mostly below sea level and where floods after Hurricane Jeanne in 2004 killed some 2,800 people. Three quarters of a million people lost their homes or were directly affected. Summer crops like maize and beans and many banana plantations were severely damaged.

# The heatwave in South-East Europe

According to many disaster managers, the response to the 2007 heat wave in south-east Europe is a good example of what can be achieved when human-itarian actors heed the dangers flagged by climate scientists.

The heatwave danger in Europe is one of the most observed impacts of climate change. In Bulgaria, in July 2007, temperatures rose above 40 degrees celsius, and in some places

were the highest temperatures ever recorded. In Romania, Bucharest suffered blackouts because the power grid was unable to cope with the extra load produced by air conditioners and fans. More than 30 Romanians died in the heat, while in Hungary, it hastened the deaths of scores of sick and elderly people. Beyond this, material damage was recorded. Figures from the European Commission showed that, with the forest fire season barely underway, almost as much land burned in the month of July 2007 as during the whole of 2006. In the northern town of Kozloduy in Bulgaria, the mayor declared a state of emergency because the drought and temperatures had destroyed almost all the corn and sunflower harvest.

However, because of past heatwaves, a renewed sense of climate awareness, and most of all, investments in disaster preparedness, Red Cross Red Crescent societies were ready – with health messages, outreach to the young and old, free drinkingwater in public places – to help. The National Societies of Bulgaria, Croatia, Hungary, Macedonia, Montenegro and Romania were "quick and active in responding to the heatwave disasters in their respective countries", says Slobodanka Curic, regional disaster management coordinator at the International Federation's Europe zone in Budapest. "They worked closely together with national and local disaster response authorities in providing coordinated assistance to the vulnerable." Investing in disaster risk reduction is useful, whether or not a natural hazard presents itself as predicted. It is only a matter of time before it does, and acting ahead of time will only result in lives saved and losses avoided.



crimate change hits worldwide. A lack of preparedness makes even the wealthiest countries vulnerable, as was shown in the summers of 2003, 2006 and 2007.

Thousands of people died in Europe during heat waves that were extreme for this part of the world. Red Cross Red Crescent volunteers in The Netherlands helped vulnerable elderly people with simple preventive measures such as ensuring them to drink enough water.

Schoolchildren talked to elderly people about what they learned during a climate change education campaign organized by The

# Climate change adaptation in the Solomon Islands

People on the artificial islands of Niuleni know all too well about the dramatic effects that climate change can have on our lives. Bad weather often means a shortage of food and water. The Solomon Islands Red Cross Society's work is a good example of how climate awareness can be a catalyst for better disaster preparedness.

The Niuleni artificial islands in Malaita Province, more than 20 of them in Lau Lagoon, are exactly that: constructed by the inhabitants themselves from stone and broken coral. The islands stand up to two metres above low tide, but at high tide the sea rises almost to people's doors. There is no land to spare, and no natural water supply. The approximately 1,500 islanders are dependent on the mainland for garden produce, firewood, topsoil, but above all, for fresh water. These are all brought by canoe, weather permitting.

An investigation of the Solomon Islands Red Cross into climate-change impacts has led it to choose these remote and vulnerable islands for an in-depth assessment mission. Staff and volunteers spent a week with the island communities to find out that water, ironically,

is their most pressing issue and that more intense storms and increased drought on the mainland are already worrying them. For this reason, the National Society is liaising with local donors to provide better rainwater harvesting equipment – than the current reliance on tarpaulins for "harvesting" rainwater. The villagers themselves will put this equipment together and get training on how to operate and maintain it. Having more locally sourced water will also reduce the need for risky voyages to the mainland. In a very real sense, climate awareness has been a catalyst for better preparation in Niuleni.

Since the assessment mission in Niuleni, the Solomon Islands Red Cross has revised its "Community Frontlines" toolkit to draw links between climate change and disasters, community preparedness, risk and vulnerability. The toolkit also includes practical steps for community-based action, and will serve to inspire others, in helping adapt to their ever changing environments.

# Early warning > Early action in a nutshell

Routinely taking humanitarian action before a disaster or health emergency, or in anticipation of a future disaster risk, making full use of different forms of information on all timescales.

- A range of warnings made at local, national, regional and global levels (incorporating information from different sources in support of the needs of vulnerable communities)
- A range of timescales, including observations, storm warnings, six-day rainfall forecasts, one-to-two-week hazard forecasts, seasonal forecasts, climate scenarios
- A range of spatial scales, including warnings and actions at global, regional, national, district, local and community level
- A range of actions, such as evacuation, volunteer mobilization, moving supplies, people and money, contingency planning, risk mapping, sensitization, risk reduction. Routinely taking humanitarian action before a disaster or health, making full use of different forms of information on all timescales

# The Fundamental Principles of the International Red Cross and Red Crescent Movement

#### **Humanity**

The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

## **Impartiality**

It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

### **Neutrality**

In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

#### Independence

The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

### **Voluntary service**

It is a voluntary relief movement not prompted in any manner by desire for gain.

## Unity

There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

#### Universality

The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.





The International Federation of Red Cross and Red Crescent Societies promotes the humanitarian activities of National Societies among vulnerable people.

By coordinating international disaster relief and encouraging development support it seeks to prevent and alleviate human suffering.

The International Federation, the National Societies and the International Committee of the Red Cross together constitute the International Red Cross and Red Crescent Movement.