



Assessing Quality and Cost Benefit

A Philippines Case Study



International Federation
of Red Cross and Red Crescent Societies

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

The collective focus of the Federation is 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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Cover photo:

Top left: Taking disaster warnings "the last mile" to members of a community is crucial in reducing disaster risks. Romeo Arias has the skills and tools to do it. Romeo participated in a Red Cross, DIPECHO-funded, Integrated Community Based Disaster Preparedness Programme-training in June 2008. He learned warning techniques, search and rescue as well as first aid and cardiopulmonary resuscitation. Romeo has passed on his skills to five other members in Tagumpay barangay, Palawan province. Erik Olsson/IFRC.

Lower left: Caramay Disaster Action Team volunteers play a vital role in building a new community evacuation centre to be used during major emergencies in the Philippines. Rob Few/IFRC

Right: School teacher Madelyn Gejardo Bacani shares lessons with young children on how to use first aid supplies provided by the PNR, the German Red Cross and the German government. Young people often serve as great communicators to their families and neighbors to help spread news on how to stay safe in emergencies.

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For more than 150 years, Red Cross and Red Crescent National Societies have been at the forefront of efforts to reduce the impact of natural and human-made disasters and to alleviate the suffering caused by such disasters. As they seek to improve their services for the most vulnerable people, National Societies have seen their disaster-related activities evolve from purely emergency relief to disaster preparedness, to support for recovery and, more recently to disaster risk reduction.

To reduce disaster risk, the International Federation of Red Cross and Red Crescent Societies (IFRC) has three main strategies:

- to help communities improve their awareness of disaster risks they face in their environment
- to strengthen the preparedness and capacities of communities so that they are in a better position to respond to disaster events and build back after disaster
- to promote activities and actions that mitigate the adverse effects of hazards.

In promoting disaster preparedness and prevention, mitigation, and climate change adaptation, Red Cross and Red Crescent National Societies undertake initiatives that use advocacy, alliance building, awareness raising and knowledge sharing to advance their work in the specific area of disaster risk reduction, which in turn contributes to building safer and resilient communities.

This document includes background on community based disaster risk reduction programming in the Philippines and an overview of a comprehensive recent Quality Impact Assessment and Cost Benefit Analysis undertaken to document the impact of that programming on vulnerable populations.

Risks and Red Cross Red Crescent Programmes

The Philippines is the second most disaster-prone country in South East Asia and among the most-disaster prone in the world. The Philippine archipelago, comprised of more than 7,100 islands, lies within the Pacific Ring of Fire and between two major tectonic plates. The country is affected by typhoons, earthquakes, landslides, tsunamis and volcanic eruptions. The total number of people reported affected by disaster between 1999-2008 was 40.37 million, an increase over the period 1989-1998 (World Disasters Report, 2009). Since 2000, flooding has become the most prevalent disaster occurrence in the country, while earthquakes kill the most per event

and cause the highest economic loss (World Bank, 2005). As with many Asian nations, the Philippines is also susceptible to the impacts of climate change, where many of the islands lie at only a few meters above sea level, meaning any rise in ocean levels will have significant consequences for the country.

Over the course of the past 15 years, to address risks specific to the Philippines and to reduce the impact of disasters on vulnerable people, the Philippine National Red Cross (PNRC), the IFRC and other partners have together designed and implemented innovative models for community based disaster risk management (CBDRM) using integrated, multi-sectoral and multi-hazard community disaster preparedness approaches. PNRC's initial foray into CBDRM programmes in 1994 was intended to help the PNRC move from a largely response-oriented approach to disaster management towards a more pro-active focus on enhancing the preparedness capacity of vulnerable communities and mitigating the impacts of recurring disasters. The initial programme sought to lessen the damage to health, homes or livelihoods caused by natural hazard events by addressing the numerous 'small' risks faced in local communities.



In Palawan Province, the PNRC has recruited and trained hundreds of volunteers like Romeo Areas and Meriam Corulem to provide search and rescue and first aid support in their communities. Here, these BDAT members practice their skills during an exercise with 15 year old Jay Madamay. Many of those surveyed during the assessment process identified health related training as among the most sustainable and effective elements of disaster risk reduction efforts.

Through its evolution, the programme has included activities to create and train local disaster preparedness and response teams, called Barangay Disaster Action Teams (BDATs), to train and equipped Barangay Health Workers or Barangay Health and Welfare Assistants, to conduct hazard assessments using the hazard Vulnerability and Capacity Assessment (VCA) methodology, to prepare local hazard maps, to produce Barangay Disaster Action Plans, and to engage youth and school teachers through disaster preparedness and first aid training. The BDATs were also provided with basic equipment such as rubber boots, rain jackets, flashlights, and megaphones. In some Barangays geophysical mapping activities were implemented through partnerships with private sector companies.

Small-scale physical mitigation works were also incorporated into all programming, albeit in different forms including hazard reduction, environmental protection, health-related projects, and rehabilitation or construction of buildings to serve as multi-purpose evacuation centres.

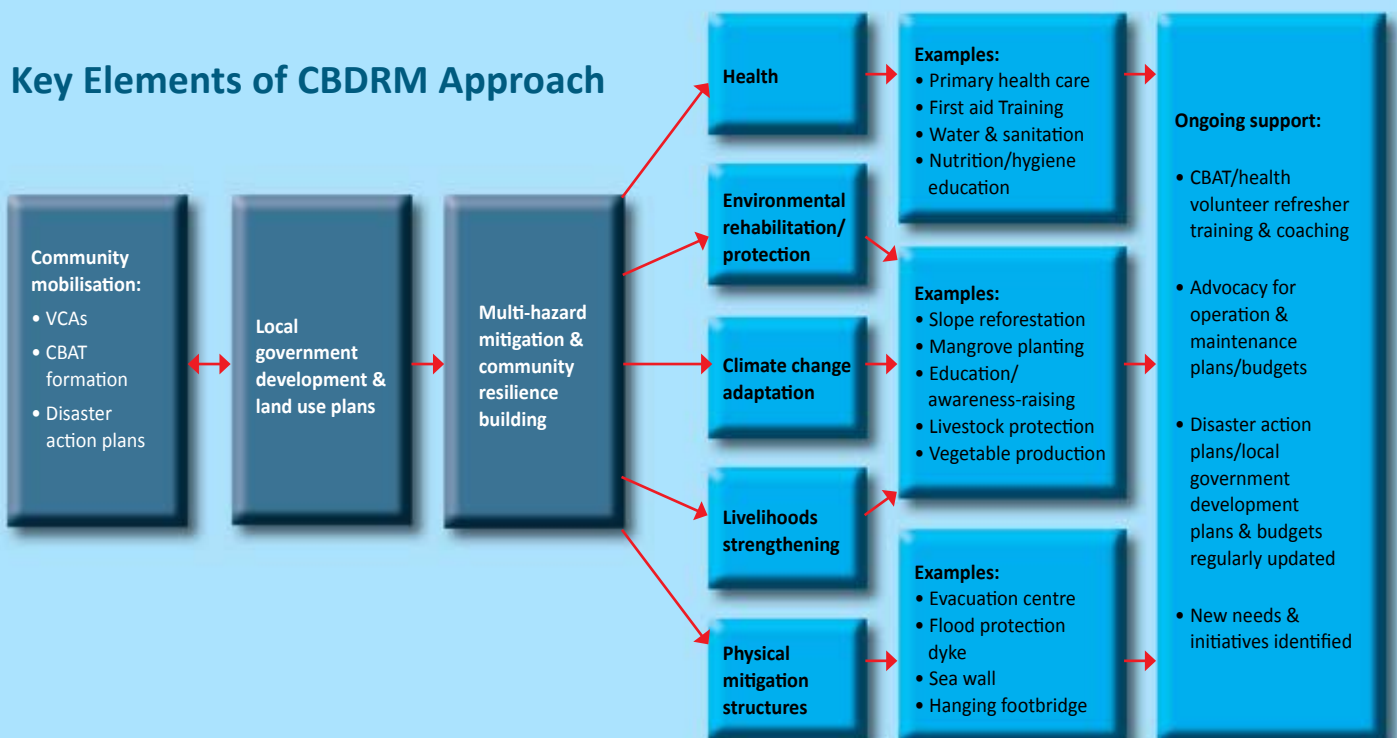
The evolution of the PNRC’s CBDRM approach has resulted in the development of a robust model that has identified a number of key elements presented in the diagram below.

The evaluation and its methodology

To draw on lessons learned and good practice from National Societies’ experiences in implementing community based disaster risk reduction, the IFRC, in partnership with the PNRC, undertook a study in September and October of 2009 to document the impact and cost effectiveness of PNRC CBDRM programmes. These were implemented in partnership with three different National Societies, the Danish, German and Spanish Red Cross Societies, and three different donors, including DANIDA, DIPECHO and the German Ministry of Foreign Affairs.

Through the study, the IFRC and PNRC aimed to assess the effectiveness and efficiency of increasing pre-disaster investment to sustainably reduce risk and enhance community resilience. The study also intended to contribute to an IFRC-wide effort to improve disaster risk reduction performance measurement and impact analysis. For this purpose, a Cost Benefit Analysis (CBA) methodology was piloted as a key feature of the process.

Key Elements of CBDRM Approach



National society organisational development: CBDRM strategies, systems, human & financial resources



Angelina Juan, a Barangay Health Worker and member of the Disaster Action Team, has lived in Malatgao barangay in Palawan province long enough to see the difference clean water has on people's health. "The children used to vomit and contract diarrhoea, they lost weight and were often so weak that their parents had to take them to the hospital," says Angelina, herself a mother of eight children. To address the problem the villagers built a water piping system that now provides most of the approximately 500 households in the village with clean water. Some villagers, like Angelina, have even extended the pipes into their own kitchens. The water piping system was initiated and implemented as part of the Philippine and Danish Red Cross Integrated Community Disaster Planning Programme (ICDPP).

The Qualitative Impact Assessment and CBA were carried out within the framework of the aid evaluation criteria established by the Development Assistance Committee of the Organisation for Economic Cooperation and Development. The assessment included 15 Barangays across eight municipalities in the three provinces of Antique, Palawan and Surigao del Norte. Three other Barangays, one per province, that were not programme beneficiaries served as control groups in order to compare the capacity of communities to mitigate and cope with the impacts of natural disasters 'with' and 'without' the assistance provided.

The PNRC selected the field-work sites using a combination of purposive and convenience sampling. Communities were chosen based on differing geographic locations and time when they entered the programme.

Successes and benefits

Over the course of 15 years and the evolution of CBDRM programming, the PNRC and its partners have made a valuable contribution to reducing the vulnerability and increasing the coping capacity of vulnerable communities. Through disaster preparedness training, these communities have developed greater awareness of the risks and improved ways of organizing responses to hazards such as typhoons, floods and storm surges.

A significant finding of the pilot phases was that communities often identified health hazards, such as unsafe water supplies, as their main problem. This led to recognition of the key linkages between health and disaster management programming and the integration of health training and physical mitigation activities into subsequent phases.

The small-scale mitigation projects have made a substantial and tangible contribution to increasing community resilience to flooding and health hazards, including economic benefits; the protection of assets such as housing, crops and livestock; health benefits such as access to safe water; and social benefits such as the safe access of children to their schools.

CBDRM programmes have also contributed to a greater feeling of safety among parents in relation to their children. Most Barangays continue to provide funds and labour to look after their mitigation facilities, a clear indication that they value them.

The PNRC has built strong institutional relationships with Local Government Units and in some cases the Local Government Units continue to incorporate CBDRM into their municipal plans and budgets. The time invested during the early stages of programming to build relationships between the PNRC, Barangays and the Local Government Units – including the development of a shared analysis of the key hazards and incorporation of the solutions into local development plans and budgets – was critical to achieving the programme’s outcomes. Furthermore, collaboration with local governments helped the PNRC to advocate for stronger disaster preparedness and mitigation measures to be included in public land use planning.

Beneficiary satisfaction levels were generally good, though less so in communities whose mitigation projects suffered from maintenance problems or where only ‘one-off’ disaster preparedness training had been provided.

Additionally, the PNRC has achieved a commendable level of integration of health and disaster management programming. In particular, the contents of the training considered to be the most useful by the majority of BDATs and community members were first aid, search and rescue and hazard mapping. Lives have been saved and a number of BDATs have used their first aid skills to treat traffic accident victims or players at municipal sporting events.

One group of BDAT members in Abaroan, Palawan, had rescued families from drowning during floods in 2008. The Barangay Health Workers draw on their training in monthly clinics with government Rural Health Unit staff or by providing first aid, immunisation, cardio-pulmonary resuscitation, emergency obstetrics and emergency care within their own communities.



It was an ordinary afternoon at the Pacabis’ family home in Quezon town when Kesser Ann Pacabis, nine years old, asked her mother if she could go for a swim.

Some time had passed when Francisca suddenly heard the upset voice of her older brother. “He shouted that I should come out of the house quickly. I ran,” says Francisca. Kesser Ann had been stung by a “salabay,” a toxic jellyfish, and lost consciousness while still in the water.

Luckily Francisca’s brother was at the beach. He jumped into the water and pulled Keser Ann onto dry land.

“There was my daughter, shivering the whole time,” Francisca remembers with distress.

Francisca had participated in a cardiopulmonary resuscitation training arranged by the Philippine National Red Cross. Now was the moment to use her skills.

“I did mouth to mouth and compressions, focused on getting her back to consciousness. I was afraid she might die,” says Francisca. Kesser Ann finally regained consciousness. “My daughter cried, but I felt so happy.”

Francisca applied ice and soothing gel on the leg that had had been stung and Kesser Ann recovered after resting at home. Francisca has remained an active Red Cross-volunteer in the community ever since.

With regard to the CBA, two of the three analyzed interventions appear to have produced significant positive returns. A hanging footbridge that was built in Pis-anan/Indig-an to help ensure children's safety on the way to school has proven its effectiveness and also helped to sustain economic activity during floods. It was estimated to have produced a 24 Philippine Peso return for every one Philippine Peso invested.

In Poblacion 1 and 2, where a sea wall of over 200 metres in length was built to protect houses and associated crops near the sea front, significant losses have been avoided despite the continuing regular occurrence of flooding. Assuming that the sea wall has a 20-year lifespan, the CBA yielded a benefit/cost ratio of 4.9. In other words, nearly 5 Philippine Peso in benefits have been realized for every Peso spent to build and maintain the sea wall.

Challenges and lessons learned

Despite an overall indication that programmes have had a significant positive impact on the lives of vulnerable people, challenges have been faced along the way and lessons have been learned that will contribute to improved efforts in the future, both for PNRC and for the IFRC.

For example, the sustainability of benefits such as lives saved and livelihoods protected through CBDRM is at risk due to a lack of follow up support and longer-term operational and maintenance issues. In many Barangays the physical mitigation structures are deteriorating and Barangay Councils have not yet found ways to plan for ongoing maintenance and repair costs. In others, the Barangay Disaster Action Plans are not being consistently updated and incorporated into municipal development plans and budgets. This is often tied to changes in leadership at the Local Government Units, and those changes often come with shifts in priorities.

A key lesson from the evolution of PNRC CBDRM programming has been that the provision of 'one-off' training programmes is not enough to build sustainable capacity, either within communities or within the BDATs. At least three to five years is needed to fully inculcate skills and knowledge and change attitudes and practices towards risk. Follow-up coaching, mentoring and refresher training is required, as are concrete activities and budgets to implement the Barangay Disaster Action Plans. The ongoing roles and responsibilities of BDATs need to be made clearer, specifically where these teams could also undertake community awareness-raising activities to reinforce learning.

Standard educational information and communication practices will benefit from periodic review to determine if they are contributing to the desired risk-behaviour change among the targeted audiences. Periodic review will also help determine whether they need updating and adjustment, particularly given an evolving communications environment with tools such as mobile phones and social networking websites becoming more common.

The issue of gender and its implications for CBDRM programming needs to be better understood and incorporated into planning. The Philippines is currently among the top 25 per cent of countries on UNDP's Gender Development Index (40 out of 155), and it sits in the bottom half of countries on the Gender Empowerment Index (59 out of 109). While it was clear that women felt they had adequately participated in project decision-making and activities, making up 30 to 60 per cent of BDAT members and over 90 per cent of Barangay Health Workers, the degree and quality of this



The villagers built this footbridge over the river between barangays Pis-anan and Indag-an in Antique province, Philippines in 2004 and it continues to enable villagers to cross safely during rains and floods. Students now reach their school, sick people easily make it to health centres and farmers transport their crops to markets. The bridge was built as part of the Red Cross DIPECHO-funded disaster preparedness programme.



In Alangan barangay, Antique province, barangay captain, Jesus, shared with the assessment team how the red area on their hazard map has grown since floods have become more severe in the last ten years. "During the typhoon Frank in 2008 the barangay was struck by a flash flood," he says. "I was able to save my relatives but not my crops."

Some villagers evacuated from their homes during Frank and the villagers also evacuated their animals to a higher location that had been identified during hazard mapping, an important part of a Red Cross and DIPECHO project.

participation could not be assessed. This led to the conclusion that new and different ways of working are required to ensure that programming is socially and gender inclusive, including special measures to support marginalised groups to overcome systemic barriers to their full participation in, and access to, the benefits of activities. Programme monitoring systems also need to specifically track gender-based participation.

The CBA identified that the building of a dyke at Barangay Roxas actually produced what appears to be a negative return on investment. Assuming that the dyke has a 15-year lifespan, the project yielded a benefit/cost ratio of 0.67, therefore returning less than 1 Philippine Peso for every Peso invested. The analysis was however challenged by a lack of data on certain benefits, which is often the case for community-level interventions. At the same time, the community highly values the dyke, committing regular maintenance funds to look after it. This highlights the importance of placing the findings of CBA within a wider context, as unquantifiable qualitative benefits, such as a sense of safety from the presence of a dyke, may be substantial.

The CBA further identified that, if CBA is carried out as part of a post-CBDRM impact assessment, full consideration needs to be given to the availability of the data required to complete the assessment. The CBA was conducted 10 years after many of the PNRC programme activities were initiated. The memories of programme participants become less reliable after such a long time, and the availability of local level secondary baseline or monitoring data covering such a long time period is likely to be limited, making primary data hard to cross-check and verify. Collection of baseline data before implementation starts needs to be integrated into programming.

Local government agencies need to be given sufficient time to collate data, especially if a considerable amount of information is being sought or if the assessment is covering a long period of time. It would be preferable to identify the data sets required to measure the actual intervention under study in advance, as is commonly done in impact evaluation, and to forward secondary data requests to the National Society and relevant local level government agencies in advance.

The road ahead

Looking to the future, this Qualitative Impact Assessment and its related CBA have pointed out a number of key factors that can help build community safety and resilience in the Philippines and strengthen PNRC CBDRM programming and analysis in the future. Together, PNRC, the IFRC and other partners should:

- Build on or renew existing good relationships with local governments to: a) assist communities to attract ongoing operation and maintenance contributions for their physical mitigation structures; b) build support for the regular updating and inclusion of Barangay Disaster Action Plans in municipal development plans and budgets; and c) encourage a more pro-active role for Municipal and Provincial Disaster Coordination Councils in CBDRM and climate change adaptation, in line with current strategies of the PNRC.
- Develop longer-term CBDRM strategies and funding plans, in consultation with donors, to combine short-term funding from various sources and to ensure programme and funding continuity for a sufficient period to build sustainable CBDRM capacity.



Long time Red Cross volunteer Maximino Virtudazo, 59, participated in the construction of a sea wall to protect the inhabitants of Burgos on Siargao Island, Philippines. Since 2001, the 229-meter long concrete barrier has halted numerous flood surges caused by heavy rains and typhoons. But rising sea levels in the Pacific Ocean are now testing the full capacity of the wall. The sea wall was built as part of the Red Cross Integrated Community Disaster Planning Programme (ICDPPP).

- Ensure there is adequate capacity within National Societies at all levels prior to engaging in CBDRM practices, through undertaking an assessment of the financial and human resource capacity, with particular attention to the ongoing support needs of the volunteers and their communities.
- Further develop PNRC's CBDRM participatory monitoring and evaluation, beneficiary accountability and knowledge-sharing systems, procedures and capacity.
- Encourage coordination and collaboration with other organisations involved in CBDRM in the Philippines and elsewhere to highlight the specific contribution and retain the leadership role of the National Society. This should focus on building relationships with players that have the potential to improve strategic thinking and add value to National Society-led initiatives.

According to the CBA, which included a set of recommendations on future CBA implementation, as the IFRC endeavors to conduct CBAs in other contexts it should bear the following in mind:

- CBA should be developed as part of wider needs and impact assessment methodologies, not as a stand-alone tool. CBA should be incorporated into the needs assessment, design, monitoring and evaluation processes from the outset of a programme, wherever possible, to ensure the accuracy and reliability of post-programming assessments.
- For programmes where CBA can add value to the assessment and planning process, training in the methodology should be provided for those National Society personnel undertaking the CBA. Additionally, an internal or external technical adviser should be made available to provide support to the data collection and analysis processes.
- CBA should not be applied across the board to all Red Cross Red Crescent programmes, but rather programmes for CBA should be selected based on the timeframe when they were implemented, the availability of data, and the relevance and applicability of CBA to making future programming decisions in the specific country and regional context.

The experience of the PNRC and its partners has confirmed that the basic model initiated in 1994 was sound and that effective CBDRM does require an upfront investment in community development processes to build community and government support for such initiatives. Upfront investment also ensures that the activities undertaken are the most useful and appropriate. A combination of hazard mitigation measures – some structural, some educational and some focused on building socio-economic resilience – yields a better overall result in reducing the multiple sources of risk faced by vulnerable communities. The contrast of the results achieved in communities that only received training courses with those that received a full package of support illustrates this, as do some of the gaps identified by communities.

While carrying out disaster preparedness training programmes alone is cheaper and faster, thus allowing rapid expansion of coverage, the impact on reducing community vulnerability is much lower as the communities often lack the means and support to implement many of the risk reduction activities they may identify as important.

The study has also echoed broader recent experience – including that of the IFRC – that CBDRM programmes need to give as much attention to understanding and building on existing forms of community resilience as they do to vulnerability. This means there is a need to shift the focus from one of understanding community needs to one of strengthening community capacities. This further emphasizes the fact that building community safety and resilience cannot be achieved by the Red Cross Red Crescent alone. The IFRC and National Societies can certainly make a contribution, but the systematic reduction of risk can only be built upon strong working partnerships between all stakeholders – from the communities themselves, to local and national government, governmental and non-governmental organizations and the private sector.

As an early pilot, the CBA process offered a number of lessons that will strengthen the application of the methodology in the future, helping to improve data collection methods to measure the value of disaster preparedness activities. The process of gathering baseline and monitoring and evaluation data for a CBA should be integrated into existing needs assessment processes and tools, such as hazard Vulnerability and Capacity Assessment, and the Monitoring and Evaluation systems already being used by National Societies and the IFRC.



Pedro Pallad has been trained to alert citizens of approaching hazards using a bamboo clapper, known locally as the “Tala-Tala.” When the local Red Cross receives a warning of an approaching typhoon, Pedro and other villagers position themselves in the street corners of barangay Pis-anan, Antique province, to “clap out” a warning signal. The villagers can then seek shelter in the local school, which is an identified evacuation centre.

This document summarizes a more comprehensive Assessment report that includes a Qualitative Impact Analysis, the CBA, and related annexes. The complete three part Assessment Report is available through the Asia Pacific zone’s Disaster Management Unit.

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.



Our world is in a mess.
It's time to make your move.
ourworld-yourmove.org



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.

