



Australian Red Cross
THE POWER OF HUMANITY



Traditional knowledge and Red Cross disaster preparedness in the Pacific

CRISIS CARE COMMITMENT

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Abbreviations

IFRC	International Federation of Red Cross and Red Crescent Societies
NDMO	National Disaster Management Office
NGO	Non-Government Organisation
VCA	Vulnerability Capacity Assessment

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Executive summary

Together, traditional and scientific knowledge in disaster preparedness could enable communities to successfully survive disasters. This report recommends that Australian Red Cross and Pacific national societies consider combining traditional knowledge when organising the Pacific Disaster Management Partnership.

Benefits of using traditional knowledge include:

- Strategies that are accepted by local cultures.
- Practical strategies that can reduce the impact of natural disasters.
- The development of strong independent communities that include everyone including older people and women.
- Better, faster and safer ways to respond to disasters, using the help available from members of the local communities, Pacific national societies and Australian Red Cross.
- Sharing of collected disaster preparedness knowledge from traditional learning and Australian and Pacific national society partnerships.

This report demonstrates that existing disaster preparedness techniques could be more effective if used together with traditional knowledge.

Worldwide strategies have developed in response to the increasing severity and frequency of natural disasters. These frameworks, which include a place for traditional knowledge, guide the work of Australian and Pacific national societies. Many national societies already incorporate some aspects of traditional knowledge in their activities at the community level. There is scope to further promote traditional knowledge through Vulnerability Capacity Assessments (VCAs) and Community Plans.

This can be done by:

- Encouraging the use of local knowledge through community exchange programs, workshops, radio programs and other activities.
- Electing traditional knowledge holders as members of disaster advisory committees to work with Pacific national societies.
- Appointing community leaders as national society traditional knowledge facilitators.

Specific areas of traditional knowledge such as early warning systems, land usage, and water and housing management are of particular use in disaster preparedness. By combining traditional and scientific knowledge, the impact of natural disasters on local communities could be lessened significantly.



Photo: Australian Red Cross/Abril Esquivel

Traditional knowledge can mean better, faster and safer ways to respond to disasters – using the help available from members of the local communities, Pacific national societies and Australian Red Cross.



Photo: Australian Red Cross/Kathleen Walsh

Introduction

Traditional knowledge is the indigenous understanding, process and practice of people and their communities. It is a combination of information and beliefs regarding the relationship of living things to one another and their surroundings. Disaster preparedness knowledge comes from local people's observations of their lands over generations.

The purpose of this report is to look at ways of using existing traditional knowledge in Red Cross disaster

preparedness activities in the Pacific region. Disaster preparedness, based on a combination of both traditional and scientific knowledge, is the best way of helping local communities during natural disasters. By giving communities greater responsibility for their own preparedness, they will be better able to cope with natural disasters and less dependent on technology and outside help.

Australian and Pacific national societies will also be able to use techniques to work toward the goals of the Hyogo Framework for Action and the International Federation of Red Cross and Red Crescent Societies' (IFRC) Global Alliance. This means that mainstream disaster preparedness knowledge will be expanded.

Preparedness involves taking actions to ensure that emergency responses during a disaster are appropriate and successful. These actions include:

- Setting up early warning systems.
- Evacuation and emergency operations coordination and planning.
- Public awareness and disaster drills.
- Building up stocks, as well as land-use planning.
- Environmental protection and building code application.

A good knowledge of hazards and their ability to cause disasters is extremely important.

This report contains four main sections:

- The worldwide framework for disaster preparedness, including the Pacific Disaster Management Partnership and the work of Pacific national societies.
- A description of traditional knowledge and its importance to disaster preparedness.
- Ways that traditional knowledge can be used in the Pacific Disaster Management Partnership and the work of Pacific national societies.
- Conclusions and recommendations.

This report suggests that in disaster preparedness, traditional knowledge combined with scientific knowledge could make a large difference to the survival of Pacific Island communities during natural disasters. At the same time it could strengthen the Pacific Disaster Management Partnership and make better use of the help provided by Australian Red Cross and Pacific national societies.



Photo: Australian Red Cross/Karina Coates

Context

In recent years, the frequency and severity of natural disasters have increased dramatically. The 1970s saw approximately 110 hazards per year happen around the world; now it stands at well over 300, with the Asia-Pacific region particularly affected. A hazard - such as a volcanic eruption, earthquake, landslide, tsunami, flood, cyclone, storm or wave surge - is a situation which risks harm to life, health, property and the environment. Hazards often damage roads, buildings and communications, reduce crops, create social tensions and use up valuable development resources. The worldwide cost of these events is expected to reach US\$300 billion a year by 2050.

Natural disasters happen when hazards occur in vulnerable communities. Communities become less able to deal with them, populations increase, urban areas expand, the environment deteriorates, socioeconomic conditions worsen and epidemics occur more often. More than 200 million people are affected every year by natural and man-made hazards. Reducing vulnerability is extremely important to provide communities with the ability to cope with natural hazards.

Structural framework

The Hyogo Framework for Action 2005-15 was adopted by 168 governments at the World Conference on Disaster Reduction in January 2005. It is the guiding document for worldwide disaster risk reduction for the next ten years. The Hyogo Framework aims to:

- Ensure that disaster risk reduction is a national and local priority with strong organisation support.
- Identify, assess and monitor disaster risks, and strengthen early warning systems.
- Use knowledge, ideas and education to develop safety and resilience at all levels.
- Reduce basic risk factors.
- Develop disaster preparedness for a full and helpful response.

The Global Alliance of the International Federation of Red Cross and Red Crescent Societies was created in response to the Hyogo Framework to:

- Make national disaster risk reduction policies more community-oriented, and strengthen national and local organisations.
- Encourage disaster risk reduction programming at the community level.
- Allow community-focused disaster risk reduction actions into response planning.
- Strengthen national societies' ability to deliver disaster risk reduction programs.

Among Pacific national societies, the Pacific Disaster Management Partnership was established. It was developed by Australian Red Cross and Pacific national societies, supported by the Australian Agency for International Development (AusAID).



Photo: Australian Red Cross

The main objectives of the Pacific Disaster Management Partnership are to:

- **Strengthen Red Cross to respond to disasters at national, branch and community level.**
- **Enable Red Cross branches to respond at local level and to support branch development at community level.**
- **Strengthen community resilience through disaster risk reduction.**
- **Coordinate and raise awareness with all stakeholders.**
- **Provide technical support to Red Cross national societies to implement the above activities.**

Pacific national societies have been working hard in making disaster risk reduction a priority at local and national levels. They have done this through:

- Appointing disaster management officers.
- Design, planning and implementation of disaster management activities at local level.
- Training and mentoring for Disaster Management Officers.
- Participating in the Community Resilience Forum and Disaster Management Advisory Group.
- Investing in regional logistics training, resources and management.
- Implementing Red Cross community risk reduction tools.
- Disaster response and extensive contingency planning.
- Public awareness campaigns, including workshops, festivals and radio programs.

As a result, all national societies now have definite roles in preparing for, responding to and recovering from disasters. They have trained volunteers to help with this, and many Pacific communities know what to do before, during and after a disaster.

Areas which might need improving are:

- Local monitoring and reducing risk factors.
- Using early warning systems and existing knowledge in disaster preparedness.
- The strengthening of local institutions.
- Regular planning.

According to Pacific national societies, the main problems they face in carrying out these activities include:

- High staff turnover.
- Difficulties recruiting and retaining volunteers.
- Challenges to communication and transport systems.
- Limited financial, staff, volunteer and material resources.

This restricts where and how communities can be helped during natural disasters.

One response to these challenges is to improve community disaster risk reduction activities by combining existing traditional and scientific knowledge.



Photo: Australian Red Cross/Karina Coates



Photo: Australian Red Cross/Kathleen Walsh

Approaches

When the community is not involved in decision-making and does not have control over a project's completion, the situation can end in disagreement and mistrust. Combining the traditional knowledge of local communities with the scientific knowledge of humanitarian organisations helps to develop mutual respect and positive communication.

The existing skill and knowledge of communities who are there to respond immediately after disasters, long before outside help arrives, has not been given sufficient recognition. The benefits of community-based approaches are:

- Increased empowerment and independence through greater ownership, responsibility and control by local communities.
- Individual support and commitment, which results from the positive exchange of information and opportunities between communities and national societies on equal terms.

The disadvantages are that:

- Consultations with communities take a lot of time.
- These consultations can consume a lot of resources.

Resilient communities are best-placed to help themselves, and have greater knowledge and skills for their own recovery. Making their disaster preparedness and response abilities stronger is more likely to save lives than sending teams in after an event.



Photo: Australian Red Cross/Kathleen Walsh

Combining the traditional knowledge of local communities with the scientific knowledge of humanitarian organisations helps to develop mutual respect and positive communication.



Photo: Australian Red Cross/Mel Tolnay

3. Traditional knowledge in disaster preparedness

When the chickens come down from the trees to roost on the ground, we know that a big storm is coming.

Traditional disaster preparedness knowledge, Micronesia.

When the dogs are in the trees, we know there has been a tsunami.

Joke, Micronesia.

Traditional knowledge is the indigenous understanding, process and practice of people and their communities. It is a combination of information and beliefs regarding the relationship of living things to one another and their surroundings. It is a community's traditional way of life and means of survival. This knowledge comes from a deep understanding of the local environment and has been handed down from generation to generation through stories, songs, poems, proverbs, worship, ceremonies and rituals.

Traditional knowledge is bound to ancestors and ancestral lands. It is received from older people in the community or through a creator, spirits or ancestors. In most Pacific island cultures there are clear traditions of custodianship over knowledge, and customary law often guides who uses the different kinds of knowledge and when and where they are used. New strategies and ways to improve disaster preparedness can be learnt from traditional knowledge.

Disaster preparedness knowledge comes from local people's observations of their lands over generations. There is a deep knowledge of the nature of hazards, including where, when, how long, how strong, how often and what their affects are.

In traditional knowledge, important areas of disaster preparedness include:

- Food security – having extra food, preserving and storing food in safe locations.
- Being able to predict weather events and predicting their effects.
- Building houses and settlements that will survive natural disasters.
- The planting of trees to prevent landslides.

Traditional knowledge is in danger of being lost. As life becomes more modernised, community life changes and local people's ability to observe and monitor their environment is weakening. Traditional ways are changing. Local singers who share information through songs are disappearing from villages through migration, and local traditions, such as famine food stocks, are disappearing because of imported goods and the provision of disaster relief.

Some people argue that traditional ways no longer matter because of environmental changes, especially with the climate. For example, pagan priests in the Solomon Islands say they are having trouble predicting the winds - when they will come, and how long they will stay.

This report argues that traditional knowledge changes over time as climate circumstances change. For it to be effective it needs to be looked at without prejudice when combining it with scientific knowledge in disaster preparedness. Even though science and technology is often looked at as the best way of predicting hazards, it has been recognised that traditional knowledge has a number of advantages.

Traditional knowledge:

- Already exists and comes from local communities who know their territories.
- Is part of local values, beliefs and uses traditional social structures.
- Is understood by communities, both physically and spiritually which allows for more communication and participation.
- Is often supported by respected community elders, giving it more strength. Some elders are able 'read' the landscape, the sky and other elements of the environment. Their advice is followed as the community trusts these people because of their specific skills.
- Is more natural to local communities who are sometimes distrusting of modern technology – which in some countries regularly arrives too late or not at all.



Photo: Australian Red Cross

Use of traditional disaster preparedness knowledge also benefits communities because:

- Prepared people are already on-site to respond in times of disaster. In Vanuatu, most of the first eruption reports are from villagers telephoning the National Disaster Management Office (NDMO) and other authorities.
- Communities are able to design solutions to their own problems based on their existing strengths and experiences.
- Learning more about disaster preparedness is constantly happening through communication and experience.

However, traditional knowledge alone is not enough. This was shown in one experiment where a group of local farmers grew their crops according to traditional knowledge and another group grew theirs with traditional knowledge supported by scientific information. The second group had a 30% higher yield. This suggests that combining scientific and traditional knowledge can only improve situations. Traditional knowledge supported by science may well be the solution to surviving future disasters.

Although countries in the Pacific region are more vulnerable to disasters, generations of men and women have successfully used their knowledge of the environment to lessen the impact of disasters. However, recent social, cultural and environmental changes may require the use of both traditional and scientific knowledge to help communities to prepare for, manage and respond to natural disasters.



Photo: Australian Red Cross/Kathleen Walsh

Case study 1: Papua New Guinea

The 296 people of Singas Village are affected by flooding every year. While the river is a hazard, it is also their livelihood. Indigenous knowledge in the five areas of building, social cooperation, planning land use, food, and environmental planning has allowed the community to lessen the impact of regular floods.

The community uses:

- Strong knowledge of their environment to find the right places to build in the dry season.
- Traditional bush materials to build houses, which are cheap and repairable. These houses are on stilts which can be made higher over the years as flood levels rise and which are above large mounds made of buried waste covered with plants to slow flooding.
- Cooperative effort to plan weather watching, land use and planting times, and safe areas. They work together because that makes them stronger than working alone.
- Shared knowledge and experience. After floods they dig out drainage systems and replant hazard-resistant crops, trees and other plants for food production and soil stabilisation.
- Traditional knowledge to see the signs of disaster. They send 'spotters' upstream to observe the river's behaviour against height markers, and control the effects of floods by being aware and having plans that they all work with.

Case study 2: Solomon Islands

In the Western Province, indigenous knowledge saved many people's lives during the 2007 earthquake, tsunami and landslides. 52 people were killed – this would have been without the traditional knowledge of the indigenous coastal populations. When the shaking stopped and the lagoon emptied, the response of the indigenous village elders was to direct everyone inland. Heads of households ensured that children were accounted for and evacuated. The migrant people from Kiribati, who had never experienced a tsunami before, died in larger numbers because they did not recognise the warning signs, or have the traditional knowledge to know where to find safety. This highlights the importance of traditional knowledge and spreading disaster information. It also shows the very important role village leaders and heads of households play in moving the community.



Integrating traditional knowledge into national society activities

National societies are guided by the IFRC Global Agenda. The aim of this Agenda is to reduce the effects of disasters, especially injuries and deaths, and to strengthen the abilities of local communities, civil society and Red Cross to help the most vulnerable. All Pacific national societies are involved in national disaster planning. Most national societies also have their own national society Disaster Plan and at least one trained volunteer Emergency Response Team. Some are also members of their country's national Disaster Advisory Committee. National societies run training workshops and community-awareness campaigns that include disaster risk reduction plans. Almost all Pacific national societies include some traditional knowledge in their disaster risk reduction work. For example in Samoa, Red Cross acts as a go-between with the government and communities.

Some national societies carry out Vulnerability and Capacity Assessments (VCAs). The purpose of the VCA is to look at the risks and hazards facing communities and their abilities to cope so they can draw up action plans and identify risk-reduction activities.

Advantages of VCAs:

- They can be used to identify problems and find solutions.
- Communities are brought together and opportunities are created for youth and older people.
- Red Cross, community and other partnerships are strengthened through greater trust and participation.

VCAs could be used to include more use of traditional knowledge. Overall, community communication is developed, vulnerabilities are reduced and local knowledge is shared. Neighbours visit each other and share information and knowledge about everything from growing crops to surviving disasters. The VCA approach is cost-effective because it works within existing national society programs and uses local communication and information-sharing. It relies on society's strongest structures - families, churches

and village/island communities - and promotes sustainability and ownership by the communities themselves.

With regard to training workshops and community awareness, just over half of all Pacific national societies carry out VCAs which allow for the expression of local knowledge. The following are a number of suggestions for Pacific national societies to increase the use of traditional disaster preparedness knowledge at the village level:

- Encourage participants to share traditional knowledge, especially regarding early warning systems through settings such as workshops, VCAs or community meetings.
- Develop Community Plans during workshops and meetings which reflect traditional knowledge into national society Disaster Plans.
- Establish local networks that can receive, act on and develop their own warning systems, raise awareness and educate communities about preparing for disasters.
- Make community leaders honorary members of Red Cross and suggest one day per month for VCA activities.
- Encourage special roles for those with traditional knowledge as Red Cross advisors at all levels, including as board members.



Photo: Australian Red Cross/Kathleen Walsh

- Create a community exchange program between indigenous and immigrant communities; communities who have experienced a disaster and those who have not; different coastal communities; and between generations.
- Include traditional knowledge and disaster preparedness into school curricula. Run school workshops with poster competitions (younger years) and essays and poetry (older years) in the local language. This has been identified by people from disaster-affected areas as one of the most effective ways of informing the population of risks.
- Create entertaining, fictional radio programs incorporating traditional ideas, locally-composed songs, and talk-back. Producing DVDs in local languages (possibly for television) based on popular culture in countries (for example, Laughing Samoans) with a disaster plot.
- Promote and monitor community action through churches.



Photo: Australian Red Cross/Kathleen Walsh

Case study: Solomon Islands

Solomon Islands Red Cross has a high profile and is well-respected through its participation in relief operations. In 2003, its Regional Disaster Management Delegate ran a four-day VCA skills training with branch volunteers and representatives from the NDMO and Oxfam Country Office. Target communities from less than one hour's drive from the branch office were chosen and Red Cross volunteers with VCA skills spoke to target groups in their languages about community and risk mapping, history lines, seasonal diagrams, statistical research and data analysis. All were comfortable and understood the issues, task groups were formed and information was collected.

In the Western Province, the Branch Officer lead a task group of two VCA-trained volunteers, a woman leader from the community and a young volunteer, who later became focal persons.

In Guadalcanal, a Red Cross board member from the target community organised community volunteers with the Branch Officer merely providing support. The methods used to gather information ranged from VCA community workshops and meetings to household interviews and questionnaires. Secondary data, such as maps, government statistics, local health clinic reports and other non-government agencies project reports were also obtained. Some of the key lessons learnt included not raising the expectations of communities or letting task group opinions and values influence data; the importance of feedback to communities; the need to mainstream community approaches, and monitoring and evaluation activities. After the workshop, Red Cross carried out a VCA to design a community development project.

Strategies for obtaining specific types of knowledge

Early warning systems

Early warning systems help lessen loss of life, property and earnings. Local early warning systems are based on environmental signals and rely on people to assist with interpreting messages and acting. Suggestions for obtaining this information include:

- Talk to community (village/island) leaders and all traditional knowledge holders.
- Combine meetings with community leaders, the NDMO, the Bureau of Meteorology, media and telecom representatives.
- Support leaders to run workshops for their communities that combine traditional early warning systems with a five-level alert system directed by the Bureau of Meteorology.

All over the world Red Cross volunteers monitor flood meters, make radio announcements, follow evacuation plans, spread flood forecasts and go from street to street giving warnings by megaphone, over loudspeakers or through local television networks. All over the world national society community involvement and training programs change the way people respond to Red Cross intervention. Communities that have contact with Red Cross are more likely to follow the directions of staff and volunteers allowing for effective coordination and decision-making. Traditional knowledge could help bring national societies into their communities.

Land usage

More specific suggestions on learning traditional knowledge regarding land usage, especially in food preservation and storage, include the following:

- Involve traditional knowledge holders in community meetings.
- Run community training with the NDMO, Bureau of Meteorology, and media and telecom representatives. Support community leaders to establish and monitor community action plans, such as families organising their own food storage.

Water and housing management

More specific recommendations on obtaining traditional knowledge regarding water and housing management, particularly waterway protection, replanting, urban planning, resilient shelters and escape routes include:

- Combine consultations by village and church leaders with relevant traditional knowledge holders, government departments and NGOs.
- Hold meetings with village and church leaders.
- Support village leaders to hold training for their communities with Red Cross emergency volunteer teams, the NDMO, the Bureau of Meteorology, and media and telecom representatives. Include a simplified VCA with the delegation of community tasks. Families could organise their own water storage, resilient shelter, escape routes and safe havens with Red Cross support and monitoring.

The intended result of integrating traditional knowledge into the Pacific Disaster Management Partnership and work of Pacific national societies:

- Increases the existing resources of communities, and community-based planning and action.
- Enables the skills and traditional knowledge of older people to gain greater appreciation and use by the community, leading to their further engagement in society, and increasing efficiency in disaster preparedness and the greater documentation of traditional knowledge.
- Engages community leaders to train families and communities who are responsible for their own disaster preparedness trained by their leaders (see Annex I), with assistance from Red Cross national societies, churches and local networks.
- Strengthens partnership and information-sharing between national societies, communities, schools, government, media and other NGOs.
- Develops transferable employment skills, support and assistance for youth.
- Increases public awareness with opportunities for feedback and consistent messages derived from all sources, including village, island and church leaders.

Overall, traditional knowledge could support Pacific national society disaster preparedness activities, giving them greater credibility and legitimacy.

Conclusion and recommendations

This report looked at the ways traditional knowledge could be used in preparing for disasters:

- It provides for good local solutions which come from and are understood by communities.
- It gives more opportunity for community participation and positive organisation in disaster preparedness and response.
- It empowers people, particularly marginalised groups such as older people and women.
- It lowers dependence on outside help, especially in the use of Australian and Pacific national society capacities.
- It encourages growth in disaster preparedness literature.

This report argues that the use of both traditional and scientific knowledge in disaster preparedness could significantly reduce the impact of natural disasters on communities.

Traditional knowledge could be further integrated into the Pacific Disaster Management Partnership and the work of Pacific national societies, mostly through the greater use of modified VCAs. Community leaders involved in activities could be given a special position within Red Cross. As part of these assessments, community plans reflecting traditional knowledge could be developed and local assistance committees established which could inform Red Cross disaster plans.

In addition, traditional knowledge holders could be given formal or informal advisory positions at all levels of the national society, and public awareness increased by incorporating aspects of traditional disaster preparedness knowledge into community exchange programs, school workshops, poster competitions and radio programs.

Churches could play a significant role in encouraging people to prepare for disasters. The Pacific Disaster Management Partnership could further minimise the impact of global and Pacific disasters by utilising existing community resources, specifically traditional knowledge, and working within the capacities of Australian Red Cross and Pacific national societies.



Photo: Australian Red Cross

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