

## DISASTER RISK REDUCTION

# Understanding Risk

- VOICE is a European network of 82 humanitarian NGOs. Improving policy and practice of Disaster Risk Reduction (DRR) in developing countries has been a priority issue for the network over many years. 2013 is key year in the development of the next international framework for reducing disaster risk worldwide including via the Global Platform for Disaster Risk Reduction in May. The EU as a global player and major donor has an important role in this discussion. While progress has been made in integrating DRR in humanitarian action, now the development community has a crucial role to play in raising awareness and practice of disaster risk reduction to protect lives and livelihoods in the global south.
- This paper is the second of a series of six working towards the Global Platform providing an introduction to key discussions around Disaster Risk Reduction. Here we explore the concept of risk and why a better assessment of risk is fundamental for protecting lives and livelihoods from disaster.

## KEY CONCEPTS:

**Disaster risk** - potential loss of life, assets, livelihoods that could occur to a particular community

**Hazard** - potentially harmful events such as droughts, floods, earthquakes, volcanic eruptions, epidemics

**Vulnerability** - the set of characteristics of a person / household / community that make it susceptible to the damaging effects of hazards

**Capacity** - the assets, knowledge, skills that enable relevant measures to be taken to protect against / respond to the hazard.



## Understanding disaster risk

Hazards such as floods, tornadoes, landslides, earthquakes all have the potential to cause deaths and injury, and to damage or destroy property and environment. But measures can be taken to ensure that their destructive potential is reduced. Safe building techniques, evacuation measures, environmental management which minimises erosion, weather-proof storage facilities for grain... there are many ways to anticipate and prepare for such events and to minimise these hazards becoming a disaster. The key is understanding not only the hazard itself, but also the level of vulnerability of the concerned population, and the capacities available to prevent or respond to the disaster.

This relationship between the hazard, and the potential danger (risk) it represents can be expressed as follows:

$$\text{Risk} = \frac{\text{hazard} \times \text{vulnerability}}{\text{capacity}}$$

A good analysis of risk in a particular context lays the ground for **managing disaster risk** ... rather than just managing the consequences of disaster.



## Risk is unevenly distributed

Risk is not just consequence of the hazards that affect a particular place. It is also linked to social, economic and other factors. Richer countries, and those with better governance generally have better institutions, more effective early warning systems, and better preparedness and response measures. Poor populations carry a disproportionate level of disaster risk. Their households are likely to lose a higher proportion of assets and income in a disaster, are more likely to be badly housed and often do not have the opportunity to recover their livelihoods before encountering another disaster shock.

A comparison between Japan and the Philippines illustrates the point. Both countries have frequent exposure to tropical storms; in Japan 22.5 million people are affected annually, in Philippines 16 million people annually. However, the annual death toll from cyclones in the Philippines is almost 17 times greater than that in Japan<sup>1</sup>.

Fragile states are also likely to be poorly-equipped to prepare for and respond to disasters effectively.

*The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.*

*- Hyogo Framework for Action (2005).*



## Assessing risk

A thorough understanding of risk at a local level is essential for building resilience to disaster. Risk assessments carried out in a participatory way involving local people can provide an informed basis for development planning, and take into account a variety of perspectives on risk. It is important to remember that different parts of the population may also experience risk differently depending on age, gender, social status and roles etc. When risks are properly understood, then early warning systems can be put in place to ensure that evasive or preventative measures can be taken in response to a hazard.

Developing and sharing knowledge about risks not only raises awareness and informs disaster preparedness, it also increases demand for public accountability and for ongoing investment in Disaster Risk Reduction (DRR) measures.



## Tackling underlying risk factors

There are some underlying factors which increase disaster, and which need to be addressed in order to reduce overall risk. These include environmental problems, such as declining ecosystems, social and economic vulnerabilities, and climate change. Climate change is a key element in the shifting nature of disaster risk for many communities; not only does it bring the increased risk of extreme weather events, it also increases the stress on many societies, for example through problems linked to water availability, food production and ecosystem change. Pillar 4 of the Hyogo Framework for Action<sup>2</sup> focuses on the need to reduce underlying risk factors, in addition to addressing disaster risk via early warning, capacity building, knowledge sharing etc. However this is the area of the framework which is the most challenging to implement: more concerted work on this will be required in the years ahead.



## Combining local experience and scientific knowledge

Sharing easily understandable information is vital to enabling people to take action to reduce risks and build resilience. An increasing body of scientific information is available to disaster risk reduction practitioners, and communications technology provides means of exchange with experts around the world. However, emphasis must also be placed on local and indigenous knowledge. The reality of a given risk situation is always more complex than the theory. Local knowledge based on the community's experience of a hazard is a vital component to understanding and addressing overall risk. The integration of local knowledge with wider learning takes time and effort, but is the path to achieving context-specific solutions and grassroots ownership of risk reduction measures.

<sup>1</sup> UNISDR Global Assessment Report 2009  
[http://www.unisdr.org/files/9414\\_GARsummary.pdf](http://www.unisdr.org/files/9414_GARsummary.pdf)

<sup>2</sup> Hyogo Framework for Action (HFA) 2005-2015: A ten-year plan to reduce natural hazard risk signed by 168 countries

## CASE STUDY



Christian Aid/Sarah Filbey

*Fishery in Phalombe district, Malawi, providing alternative income to a vulnerable community.*

## A new approach to risk in Malawi

*This case study from Malawi is an example of local ownership of disaster risk reduction, based in an understanding of real risks and capacities.*

### CONTEXT

Malawi is a country with a high incidence of food insecurity, and recurring hazards such as drought. Before the Building Disaster Resistant Communities project, Christian Aid's partners in Malawi often based their projects on observable problems such as food scarcity. Assessments tended to focus on bringing in additional resources to fix a single problem, rather than approaching it holistically and looking at what resources and capacities were available locally to help tackle the problem. Getting the communities more involved using participatory vulnerability and capacity assessments (PVCA) enabled a deeper understanding of the risks to local lives and livelihoods, and led to a change in approach.

### PROJECT EXAMPLE

Team-building workshops were held in preparation for carrying out community assessments in villages in the districts of Chitipa, Salima, Nsanje and Phalombe. These workshops created a common understanding of basic DRR concepts such as hazard, disaster, risk and resilience, and how to present these concepts in an accessible way in local languages, as well as training teams to carry out participatory vulnerability assessments.

When the assessments were carried out, communities did not only identify the most obvious risks such as drought and food insecurity; they also highlighted other hazards such as floods, HIV/AIDS, pestilence and underlying factors such as poverty and poor health that were contributing to disasters.

However, the community based assessment also led to the villages identifying strengths and assets that

could be used to develop risk reduction strategies, e.g. good local leadership at village level, manpower, land available for cultivation, and local springs to provide water. Based on the risks they faced and the strengths they had, the villagers developed an action plan with the help of the partner organisation.

For example, in Phalombe, spring-fed irrigation schemes and water-harvesting ponds and treadle pumps now provide year-round water supply so that communities are not so reliant on the timing of rainfall. This means they can now grow two harvests a year rather than one and produce more food. Grain banks enable them to store surplus food in a secure place and cope with food shortages or price surges. The results have been increased production, less migration and holding onto assets. In the event of a drought, pestilence or flood, they will have a safety net of food and savings to help them recover.

The communities learnt that they were capable of undertaking a wide range of activities themselves to increase their resilience to disasters, with minimum support from external assistance. The methodology of participatory assessment used also helped partner organisations and local authorities to have a better understanding of community level risks and how community members perceive and respond to these threats to their lives and livelihoods.

### PROJECT OVERVIEW

Project: BDRC (Building Disaster Resilient Communities)  
Location: Chitipa, Salima, Nsanje and Phalombe, Malawi  
Working with: 654 families in 10 villages  
Duration: 2 years



## Key messages

- EU policy makers, including in the field, as well as development practitioners, need to ensure an improved focus on analysing disaster risk in strategies and programmes to ensure a sustainable basis for development.
- Policy makers should ensure that the successor to the Hyogo Framework includes actions to address underlying risk factors.
- The sharing of evidence-based knowledge about the benefits of DRR, the interaction between scientific research and local knowledge, and information-sharing at a community level are all important to improving community resilience.

### FURTHER READING

- VOICE position paper (2012) *Disaster Risk Reduction - a fundamental element of building resilience*
- Christian Aid (2011) *Partnering for Resilience*
- UNISDR (2011) Global Assessment Report *Revealing Risk, Redefining Development*
- Emergency Capacity Building Project (2013) *Towards Resilience - A Guide to Disaster Risk Reduction and Climate Change Adaptation*

*This paper was prepared by the **VOICE Working Group on Disaster Risk Reduction (DRR)**. Established in March 2007, the group brings together 25 European NGOs with the goal of contributing to and improving EU policy and practice on DRR, with particular reference to the Hyogo Framework for Action. In 2012 the DRR Working Group supported the development of the abovementioned VOICE position paper.*



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*The views expressed herein should not be taken, in any way, to reflect the official opinion of the European Commission.*

### VOICE

VOICE stands for 'Voluntary Organisations in Cooperation in Emergencies'. It is a network representing 82 European non-governmental organisations (NGOs) active in humanitarian aid worldwide. VOICE is the main NGO interlocutor with the European Union on emergency aid, relief, rehabilitation and disaster risk reduction. As a European network, it represents and promotes the values and specificities of humanitarian NGOs, in collaboration with other humanitarian actors.

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