Approach to Disaster Risk Reduction

Emergency Directorate, October 2016

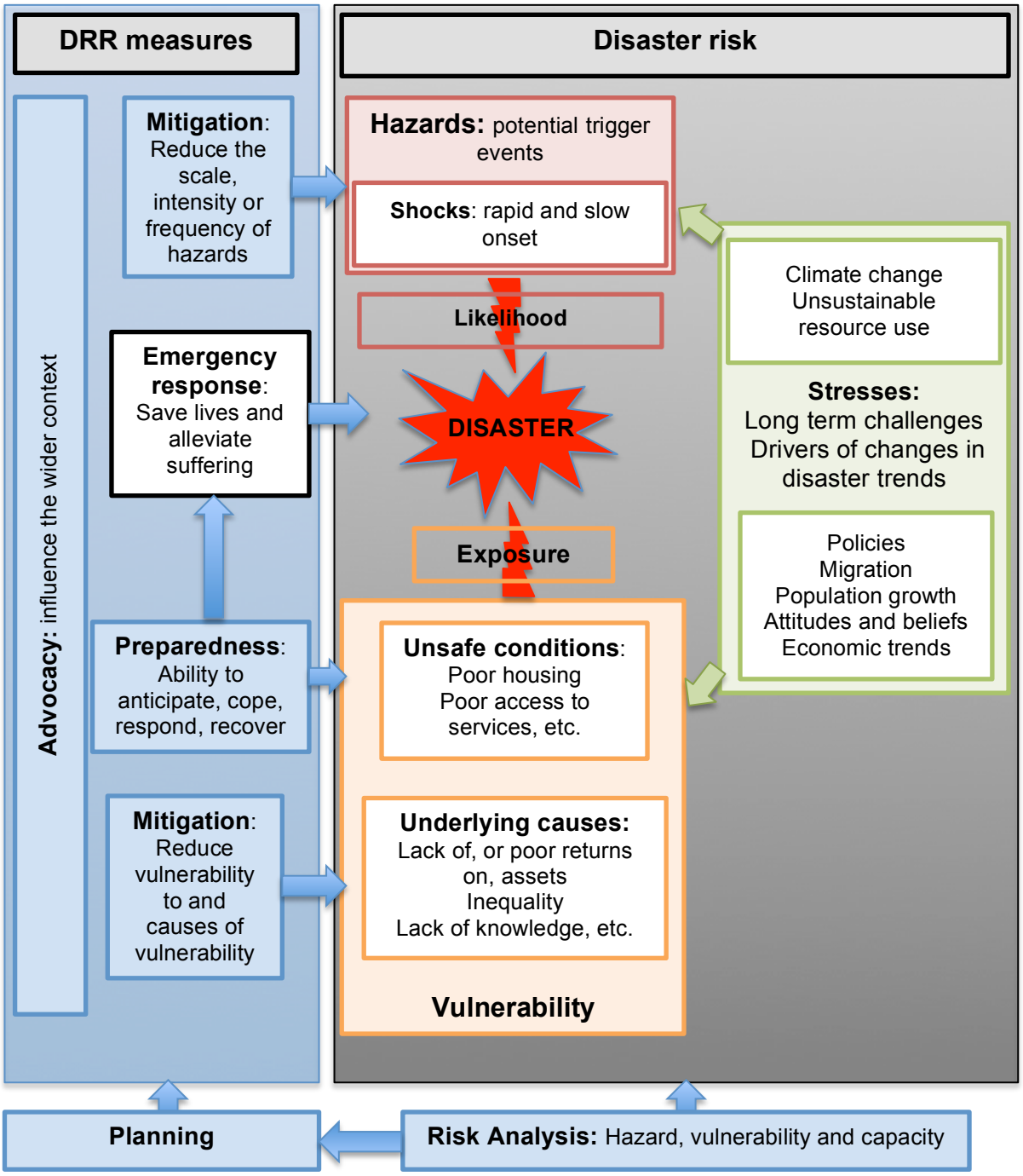
Scope of paper

This paper replaces the 2005 *Approaches to Risk Reduction* paper. It is based on the ten years of accumulated experience amassed in Concern since then and seeks to guide our programmes in how to help poor and vulnerable communities manage disaster risk. It is aimed primarily at Concern and partner staff and can be regarded as our formal policy on DRR.

As community resilience is an outcome of DRR, this paper is the foundation of Concern's guidance on how to design and implement community resilience programmes.

The paper also includes a pull-out summary as a policy guide to Concern's approach to DRR.

Policy guide to Concern's approach to DRR



Above: Concern's conceptual model of Disaster Risk Reduction, which shows the components of disaster risk, and the DRR measures that can be used to address and reduce them.

Each and every one of us lives with risk, and we are all vulnerable to differing degrees; but some of us live with higher risk, and are more vulnerable, than others. Increasing human population, climate change, unsustainable resource use, migration into high risk contexts and patterns of conflict are some of the important factors driving a global increase in the number of disasters and numbers of people affected.

The cyclical and recurring nature of many hazards in the countries in which we work is an important determining factor in keeping poor communities poor. Sustainable development can only be achieved if the underlying disaster risks are addressed. Globally, the understanding of the importance of managing risk has become more commonly accepted and will likely remain an important feature in how we, in the humanitarian and development sectors, choose and prioritise programmes.

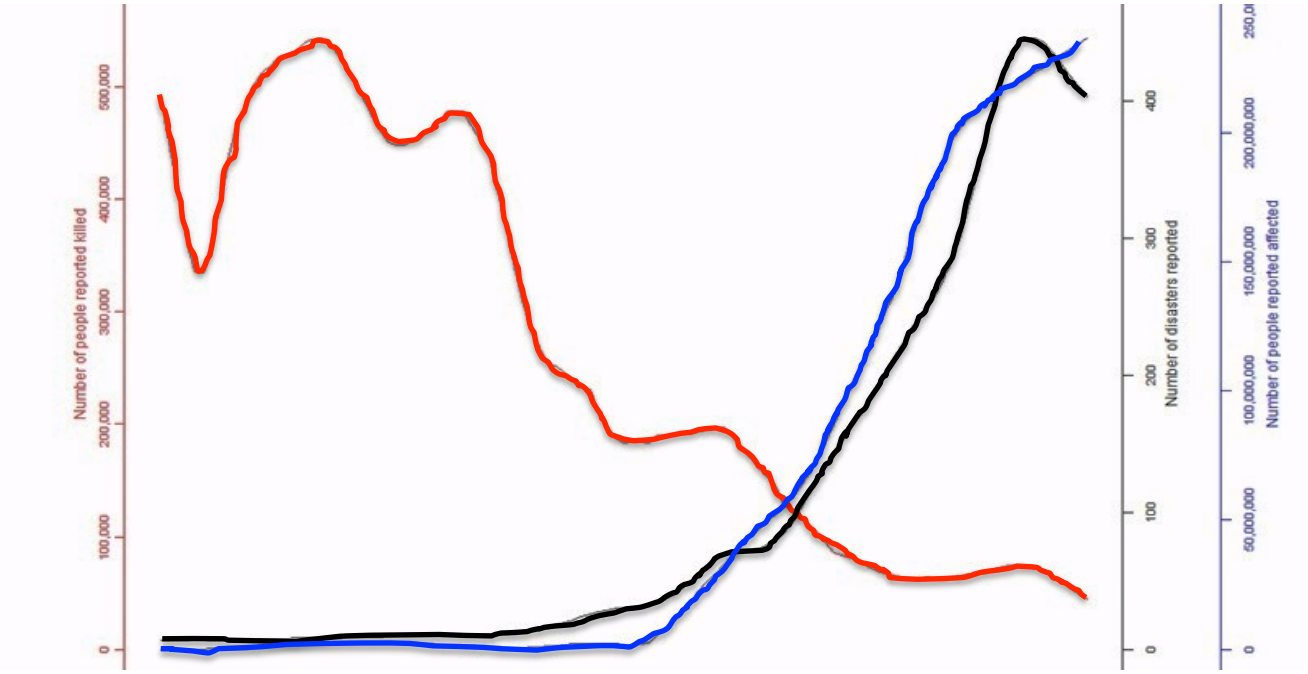


Fig 1: Incidence of natural disasters (black), number of people affected (blue) and number of people killed (red); composite statistics. From CRED www.em-dat.be

While the incidence of 'natural' disasters is growing, and the number of people affected by them is increasing, the mortality associated with natural disasters is decreasing (see fig 1). The main reason for this reduced mortality is **Disaster Risk Reduction**. However, mortality associated with conflict is rising (see fig 2 below), and conflict remains the most fatal form of hazard. In virtually all contemporary conflicts, the number of indirect victims of armed violence is many times larger than the number of battle deaths, which were estimated at about 180,000 deaths in 2015[1]. It is imperative that, given that many of the countries in which Concern works are seriously conflict affected, the impacts of conflict are also addressed.

[1] www.saferworld.org.uk/downloads/

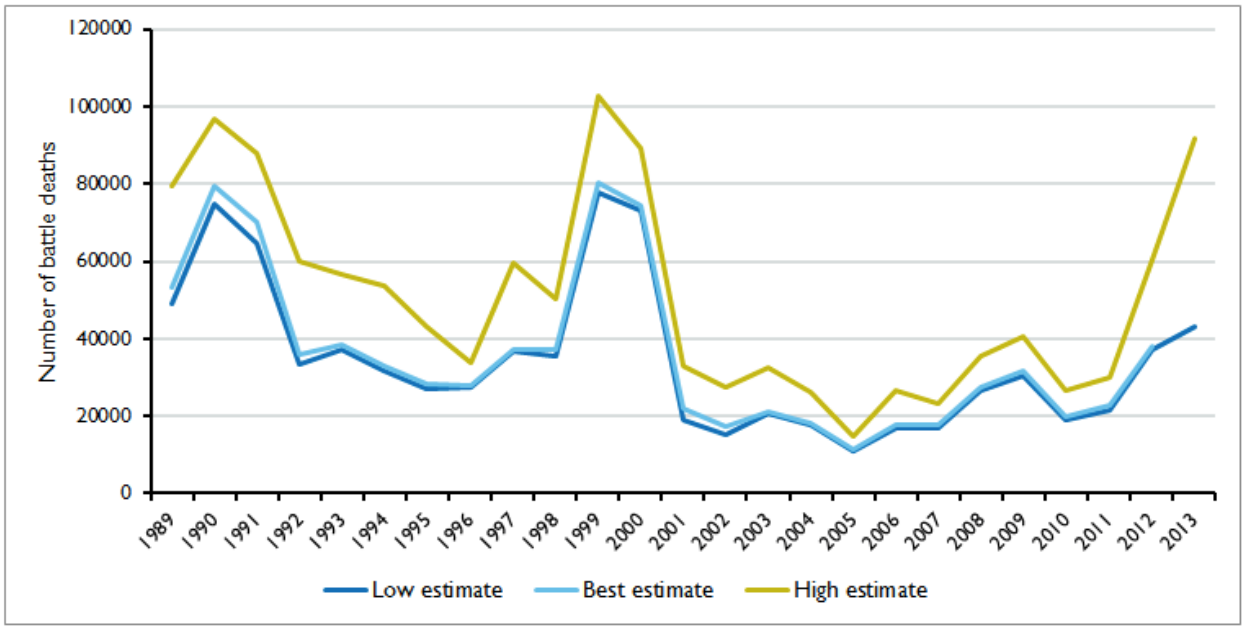


Fig 2: Battle deaths from all types of conflict, 1989-2014. Conflict mortality has been rising in recent years. From https://www.prio.org/Projects/Extensions/ConflictTrends/Graphs/

'Risk and vulnerability' is one of the three pillars of extreme poverty (see *How Concern Understands Extreme Poverty*) and has become an important part of our understanding of sustainable development and emergency response.

Disaster Risk Reduction (DRR) is the process by which we reduce the impact of hazards on the lives and livelihoods of the people with whom we work.

Risk analysis is the fundamental starting point for DRR. It is the systematic gathering and analysis of information relating to the hazards that affect communities, communities' vulnerabilities to the impacts of these hazards, and the capacities available to communities to reduce the impact of these hazards.

Mitigation entails the reduction of the impacts of hazards. This is done in two ways: by reducing the scale, intensity or frequency of the hazards themselves, or by reducing the vulnerability of the people exposed to the hazards. Mitigation includes both structural and non-structural measures.

Preparedness means preparing to respond to, cope with and recover from disasters – both for those exposed to hazards, and for agencies able to respond to disasters if the local capacity is overwhelmed. Preparedness includes the establishment of institutions for DRR, early warning and early warning early action (EWEA) systems, awareness raising and planning.

Advocacy focuses on influencing some of the causal factors of risk that are derived from the wider context. It includes the running of campaigns, documentation and evidence generation, and influencing policy development.

Fundamental to our approach to DRR are:

- **The centrality of risk:** Risk is a fundamental driver and maintainer of poverty. All communities that Concern works with are subject to differing degrees of disaster risk. If development programmes are to enhance communities' sustainability, they must address risk as one of the underlying causes of poverty, and DRR must be a fundamental component in any development strategy. All Concern programmes must incorporate DRR.

- **A holistic understanding of the nature of hazards:** We consider any event that has the potential to cause damage and harm to be a hazard. This includes conflict and the complex interactions between this, natural, and human-derived events. All hazards can be addressed using our approach to DRR.

- **Focus on specific vulnerability:** Concern programmes address those who are the poorest and most vulnerable. Vulnerability is complex, and requires interventions that are tailored to specific vulnerabilities and needs.

- **Equal emphasis on catastrophic and everyday risk:** Concern places equal emphasis on responding to catastrophic events, or intensive risks, such as highly damaging earthquakes that often require emergency humanitarian responses; and everyday, localised and relatively frequent, small-scale events, or extensive risks, that corrode community assets and should be addressed through resilience-building development programmes at the community and household level.

- **Climate change adaptation is part of DRR:** Climate change negatively influences the complex interactions between hazards, vulnerability and the wider context and will be felt most keenly in many of the countries in which we work.

- **Addressing conflict is part of DRR:** Conflict is a common hazard in many of the countries in which we work, and should be addressed using the logic of DRR. The scale and level of conflict will determine our type of response.

- **Community based DRR:** This starts with the perspectives of those affected, building on their capacities to withstand and recover from the impact of hazards. We may work at higher levels to facilitate this, but always remain focussed on the needs and capacities of the most vulnerable people within communities.

- **DRR is the foundation of community resilience:** community resilience is an outcome of DRR, and is based on a foundation of DRR logic, with other long term development processes that aim to reduce vulnerability, in line with *How Concern Understands Extreme Poverty*.

- **DRR is mainstreamed as a cross-cutting issue:** Hazards affect all of the sectors in which we make interventions. Mainstreaming DRR requires the systematic undertaking of risk in all sectors and the use of this analysis to inform our programme choices, priorities and programme design to ensure that they all make a contribution to reducing risk.

- **Preparedness for Effective Emergency Response (PEER) is part of DRR:** While responding to emergencies is not part of DRR, preparing for such responses is – not only for communities and government, but also for Concern and its partners. Preparedness for Effective Emergency Response (PEER) is Concern's internal process to ensure that we are ready, willing and able to mount speedy and effective emergency responses in all of our countries of operation.

Part One: Disasters in context

1.1 Hazard Types

There are many different types of *hazard*, which we classify as shown in table 1 below. The distinction between different hazard types is not hugely important, and some hazards, because of their complexity, prove difficult to classify. What is of crucial importance is that we accurately identify all of the hazards that have occurred, or may occur, in any particular location in which we work.

Hazard categories	Hazard groups	Explanation	Hazards
Natural	Geological	Originating from the earth	Earthquake, tsunami[2], volcanic eruption, dry landslide (rock-fall, etc.)
	Hydro-meteorological	Originating from water or weather[3]	Flood, drought, extreme temperatures, storms[4], wet landslide[5], avalanche, etc.
	Biological	Originating from biological organisms	Disease epidemics of humans, livestock and crops, locust and other pest attacks, etc.
Human derived[6]	Economic	Originating from economic forces	Price spikes of basic commodities, high levels of inflation, etc.
	Social	Originating from traditional practice, social norms, etc.	Criminality, gender based violence, etc.
	Political	Originating from policies and institutions	The lack of, poor implementation of or poorly designed policies and development choices, etc.
	Technological	Originating from breakdowns of human technology	Releases of toxic chemicals, infrastructure collapse, etc.
	Conflict	Originating from the use of violence	Political/identity conflict, resource conflict, local conflict, organised criminal violence[7]

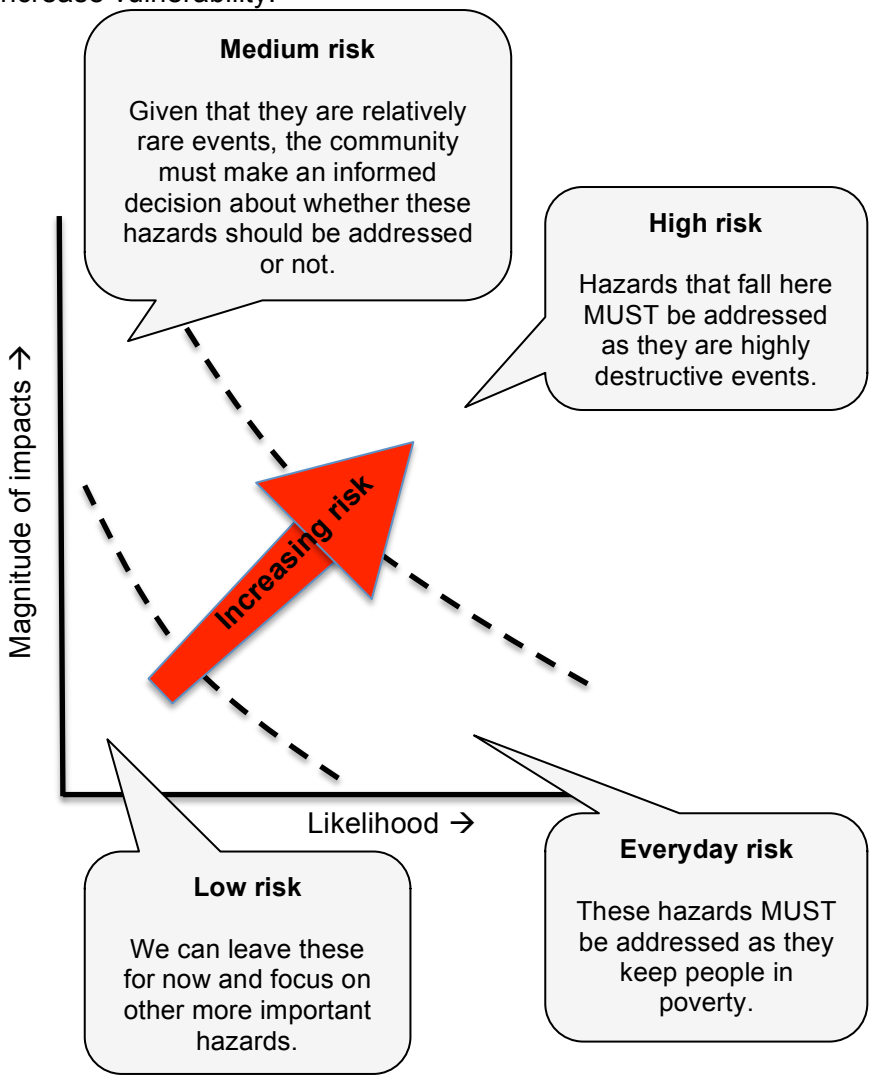
Table 1: Concern's hazard classification

[2] Although tsunamis are waves generated in the sea, because their origins are from earthquakes or rock falls in the oceanic floor, they are deemed to be geological hazards.
[3] Some organisations also talk of 'climatological' hazards – those that are caused by long-term climate processes, and would include the rise in extreme temperatures in this. For simplicity, Concern places these into the hydro-meteorological group.
[4] Includes tropical depressions, cyclones, typhoons and hurricanes.
[5] Although this is movement of earth, if it is caused by too much water, then the resultant landslides are deemed to be hydro-meteorological in origin.
[6] Sometimes referred to as man-made. Many organisations only consider technological as human-derived hazards, but Concern acknowledges the important role of humankind in the genesis of many other hazards.
[7] These categories of conflict are based on Concern's typology of conflict, further explained in the Concern Worldwide Conflict Strategy and expanded on in section 3.15.

1.2 Risk

Hazards are potential events that, if they occur, are likely to cause damage to lives and livelihoods. When the events happen they are called *shocks*, and can be both rapid onset, such as an earthquake, or slow onset, such as a drought. *Disasters* result when the capacity of a community to anticipate, respond to, cope with or recover from a shock is overwhelmed. These community capacities are undermined by *vulnerability*, as well as long term challenges arising from the wider context, known as *stresses*. Stresses such as climate change can both exacerbate the frequency or intensity of shocks, as well as increase vulnerability.

Risk is a measure of the likelihood of a hazard event happening and of the likely impact on assets and livelihoods if it occurs. Different organisations word their definition of 'risk' in slightly different ways, but they tend to share the same key concepts, of the hazard, its likelihood of occurrence, and the vulnerability and capacity of the affected community.



Concern uses risk assessment graphs such as that shown here as a key component of risk analysis. These graphs use two main variables, *likelihood* of an event occurring, and the *magnitude of impact* when it does occur. Our understanding of risk uses the same two key variables:

Risk = likelihood x impact

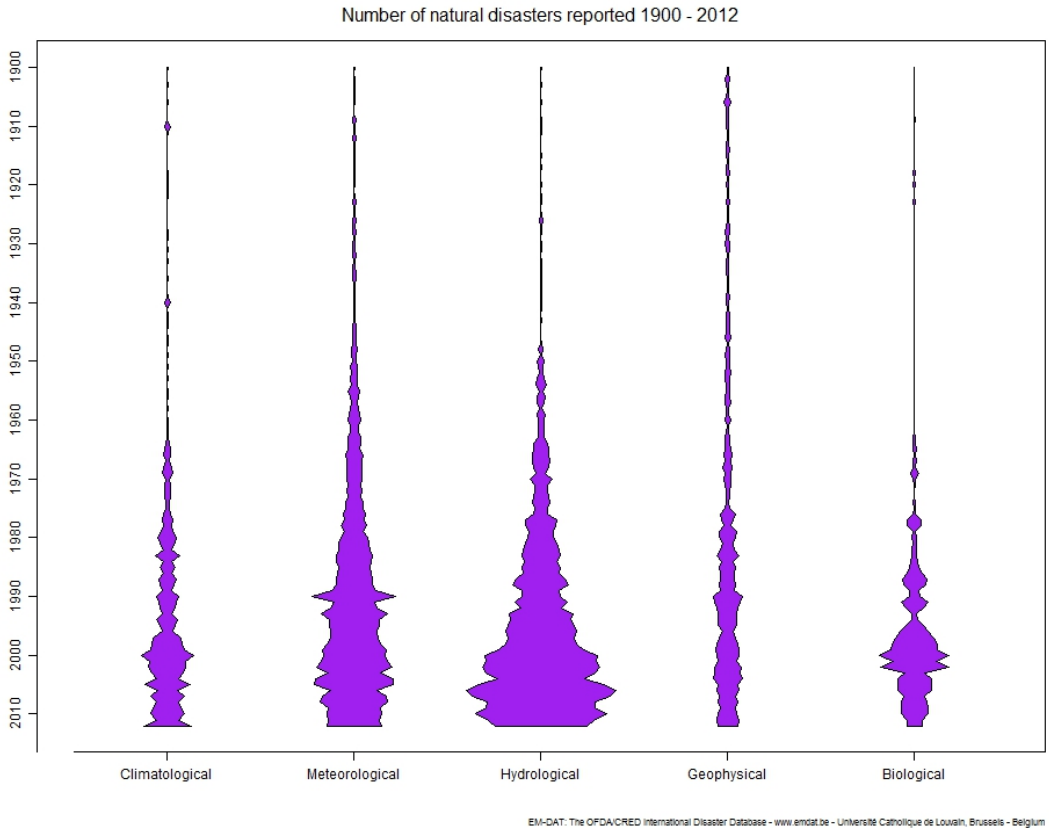
The 'magnitude of impact' element is directly related to the *scale* and *intensity* of a hazard, and the *vulnerability* of the community and individuals exposed to it. Their vulnerability is influenced by a number of factors, including poverty, conflict dynamics, governance issues, social issues and other stresses derived from the wider context.

Some hazards are relatively small but can happen very often. These are the *everyday* (or extensive) risks. Research indicates that, cumulatively and over time, low intensity but frequent shocks can erode assets and livelihoods more than less frequent *catastrophic* (or intensive) risks[8]. Everyday risk can undermine development gains if left unaddressed.

[8] In the last 20 years, 54% of houses damaged, 80% of people affected, and 83% of people injured by shocks were affected by smaller localised disasters (GAR 2011).

1.3 Disaster drivers and trends in disasters

As the graph in the introduction (fig. 1 on page 3) shows, the incidence of disasters is increasing. The graph below[9] shows that this is true for all categories of natural disaster, but the ones that show the most significant increases are hydrological (floods) and meteorological (storms and droughts) disasters. The reason for this lies partly in factors that increase the incidence of shocks but also – as noted below – because more people, in absolute terms, are vulnerable.



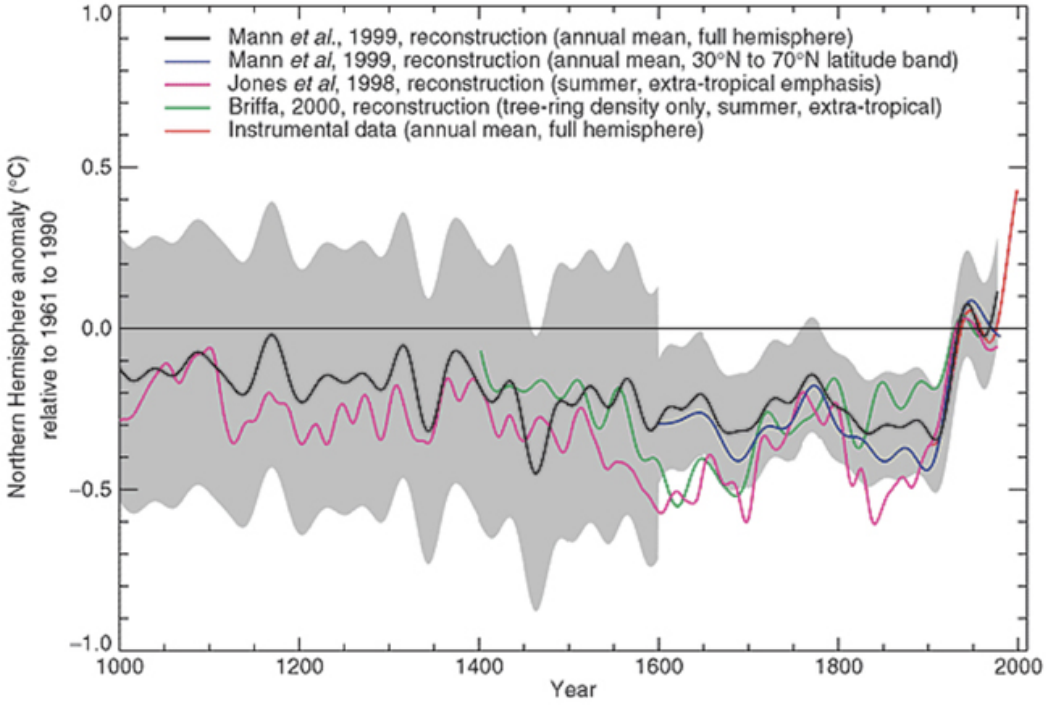
There are four main *global* drivers of the increase in disasters:

- **Population growth**: The world's population is currently growing by 1.2% annually, and recent calculations suggest that population will peak at 11 billion in 2100[10]. Global population was 1.5 billion at the start of the 20th Century, 2.5 billion in 1950, and is currently more than 7 billion. Much of the future population growth is expected in Sub-Saharan Africa[11]. With population growth, more people are exposed to hazards, as well as further contributing to environmental degradation and driving unsustainable resource use.
- **Unsustainable resource use**: Natural systems act as buffers against many hydro-meteorological hazards such as coastal mangrove forests protecting against storm surges. Rising *per capita* consumption combined with population growth and many other factors place many of the Earth's ecosystems under extreme pressure.
- **Climate change**: Scientific evidence unequivocally shows that climate change is real, and created by human activity[12]. The graph below shows how temperatures have risen sharply

[9] From em-dat by CRED, at http://imgur.com/a/KdyTV#6
[10] http://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf and https://ourworldindata.org/world-population-growth/.
[11] More than half of global population growth between now and 2050 is expected to occur in Africa.
[12] http://www.ipcc.ch/news_and_events/docs/ar5/ar5_syr_headlines_en.pdf

during the 20th Century. Climate change increases the frequency and intensity of many hydro-meteorological hazards and drives sea level rise. Warming temperatures contribute to declining productivity of many food and cash crops, and an increase in the range of disease vectors such as the mosquito[13].

- **Migration into high risk contexts**: For the first time in history, more than 50% of the human race is urbanised[14]. Many of the world's mega-cities are situated in seismically active zones. Cities on coastlines or alongside rivers can be both subject to floods and other hydro-meteorological events. Any shock that occurs in these densely populated areas can affect large numbers of people. For cities already struggling with the provision of services, major increases in their populations can be a huge burden. The poorest often end up living in informal settlements or slums, which are often situated in high risk zones. Rural to rural migration can follow similar patterns, with people moving into flood plains or coastlines. 65.3 million people are displaced as a result of conflict and persecution in 2015[15]. Significant numbers of these people are displaced into conditions of high risk.



In addition to these *global* drivers, hazard trends are influenced by other stresses from the wider context. Stresses can increase the scale, intensity or frequency of shocks, and can also produce difficult conditions which exacerbate vulnerability, increasing the likelihood of disasters:

- **Political** issues: policies that reduce or exacerbate risk, non-existent or non-enforced policies, and processes that move populations towards or into states of conflict.
- **Social** issues: harmful traditional practices, beliefs, attitudes and behaviour of people.
- **Economic** issues: price spikes, inflation, global economic trends, shifts in consumer preferences and market demand, as well as the impacts of development which can have both positive and negative influences on hazards.
- **Environmental** issues: the natural resilience of the local environment, the local degree of environmental degradation and climate change.

[13] http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2010/
[14] http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/
[15] http://www.unhcr.org/uk/news/latest/2016/6/5763b65a4/global-forced-displacement-hits-record-high.html

Part Two: Disasters and the extreme poor

Poverty is a fundamental dimension of vulnerability, and can be created and maintained by disasters. In turn, poverty contributes to the likelihood, intensity and impact of disasters. In the last 20 years, low-income and lower-middle income countries have accounted for only 33% of disasters, but 81% of all deaths[16].

2.1 Specific vulnerability

This refers to the vulnerability of specific members of a community, which are not necessarily experienced by others. We have to identify *what* the specific vulnerabilities are, *who* experiences them, and *why*.

The inequality of disaster impacts

- The Bangladesh cyclone of 1991 killed between 138,000 and 150,000 people. 90% of the casualties were women and children.
- The 2004 South-East Asian tsunami killed some 220,000 people. Oxfam found that up to four times more women died than men.
- Of those killed in Cyclone Nargis, in Myanmar in 2008, 61% were women.

Women tend to be more vulnerable in most disasters. See the examples in the box[17]. A study analysed disasters in 141 countries and concluded that gender differences in loss of lives due to natural disasters are linked to women's economic and social rights and their social roles. These include their access to early warnings, the right to leave the home unaccompanied, whether they have been taught to swim, and being already burdened by the care of children and household possessions[18]. Women and girls constitute 70% of the global poor.

We also find gender differences after disasters; chiefly in the increase in gender based violence, particularly when families have been displaced and are living in overcrowded emergency or transitional housing. Gender roles usually dictate that women become the primary caretakers for those affected by disasters, substantially increasing their emotional and physical workload[19].

2.2 Anticipation and the extreme poor

By knowing about a hazard in advance, you may be better able to get out of its way, find shelter or put in place strategies that help you to get through the event. This is the function of early warning systems (EWS). See section 3.4 for more information.

Before the 2010 Pakistan floods, the EWS was triggered by exceptionally large rainfall in the upper catchment, and warnings were issued to landlords along the flood plain. Many landlords failed to pass the message on to tenants in vulnerable communities, who simply did not know that the flood was coming[20]. One reason was that the early warning was issued in terms of a number of cusecs coming down the river, but many people did not know what a cusec[21] was, never mind knowing whether the numbers quoted implied large volumes of water.

The same pattern was repeated in the Philippines before Typhoon Yolanda/Haiyan: the Filipino government did an excellent job warning and evacuating people, but people were warned of a

[16] http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8574.pdf
[17] All data from: http://en.wikipedia.org/wiki/1991_Bangladesh_cyclone, IFRC, Oxfam and http://www.undp.org/content/dam/undp/library/crisis%20prevention/UNDP_CPR_CTA_20140901.pdf
[18] http://www22.lse.ac.uk/geographyAndEnvironment
[19] http://www.wikigender.org/index.php/Women_and_Disasters
[20] Personal communication with villagers in Muzaffargarh, Punjab, Pakistan.
[21] 'cubic feet per second' - the Indus flow in 2010 exceeded 100,000 cubic feet per second in places, which was higher than the design capacity of the embankments and headworks which were breached as a result.

'storm surge', and this was not properly understood by everyone[22]. Had they been told of a tsunami-like wave being pushed by the storm, it is possible that there would have been even fewer lives lost.

These two examples raises a key concern in relation to how hazard warnings are communicated and what is understood by that communication, and point to gaps in DRR education and communication. Furthermore, many poor people are excluded from receiving warnings because they do not own or have access to telephones, radios, televisions or other communication devices commonly used for warnings, and so consideration needs to be given to the channels of communication to ensure that any early warning messages are received by the maximum number of people.

In Bangladesh, where cyclones are well understood, warnings are disseminated by the Red Crescent's Cyclone Preparedness Project using a flag system. When three flags are raised, it is the signal to evacuate to the cyclone shelters. Rickshaw drivers and others equipped with megaphones share the warning to ensure that everyone hears it. With the exception of those who live remotely, this works very well.

2.3 Response and the extreme poor

Responding to a warning, or to a disaster, requires preparedness planning, which many poor communities have not been helped to develop. Under-resourced contexts tend to have government administrations that are weak and lacking in capacity and resources, and struggle to deliver basic services to their constituents. Poor communities lack the resources to put together contingency stockpiles of response materials, such as warm clothes, food, water, plastic sheeting, etc.

2.4 Coping and the extreme poor

The photograph shows a school in rural West Bengal, India – the only building in the village constructed from reinforced concrete, it is intended to double as a cyclone shelter. The small size is totally inadequate for the 5,000-strong population, and as it has not been constructed on stilts, it will be inundated by storm surges. Poverty has prevented the construction of properly designed shelters.

The Sahel region suffers from cyclical droughts which often lead to food crises. During drought periods, people can resort to negative coping strategies, among which may be reducing the amount of food eaten per day, restricting their diet to cheaper items, selling or consuming productive assets like seeds and animals, or falling into debt. This can lead to a spiralling cycle of poverty, making them less able to cope with the next food crisis, which may be only two or three years away.

2.5 Recovery and the extreme poor

Many disasters seriously impact livelihoods by destroying farmland, damaging essential infrastructure, and cutting access to jobs and markets, etc.

[22] http://www.preventionweb.net/files/36860_36860gizassessmentofearlywarningyol.pdf

In Nepalgunj, Nepal, after floods in 2007 displaced some 60,000 people, it was found that houses typically used by the poor, constructed with sticks, mud and thatch, had been damaged by the flood waters. Despite being relatively cheap, their owners did not have the means to reconstruct them[23].

The costliest recorded disaster so far was the Tōhoku earthquake and tsunami in east Japan in 2011, which killed 20,000 people and caused damage estimated at $210 billion. This enormous figure only amounted to 4% of Japanese GDP. Compare this to the Haiti earthquake in 2010 that killed 230,000 people, and caused $7.8 billion in damages. The disaster cost a staggering 120% of GDP, clearly overwhelming Haiti's capacity to recover[24]. The disparity in the numbers of people killed in these respective events underlines how poverty drives vulnerability.

[23] Personal observations.
[24] http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9027.pdf

Part Three: Addressing Risk

3.1 What is Disaster Risk Reduction?

Disaster Risk Reduction (DRR) is the process of protecting the livelihoods and assets of communities and individuals from the impact of hazards[25].

In all of the countries in which Concern works, there are cyclical, often predictable, hazards of varying intensities, which impact on the people with whom we work. Hazards are important obstacles to the success of projects and programmes, hindering people from realising their development objectives. The path to sustainable development must address the obstacles to development, so **DRR must be a fundamental component in any development strategy**.

DRR should also inform humanitarian action by contributing to reducing future vulnerability as stated in principle eight of the *Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief*[26].

Concern takes the view that there are four key components of DRR, explained below, which are:

- Risk Analysis
- Preparedness
- Mitigation
- Advocacy

For examples of DRR programmes, please refer to the DRR documentation reports on the intranet[27].

3.2 Risk analysis

Risk analysis is the fundamental starting point for DRR[28]. It is the systematic gathering and analysis of information relating to the *hazards* that affect communities, the various types of *vulnerability* of the different people within the community, and of the *capacities* available to communities to reduce the frequency, scale, intensity or impact of these hazards.

Risk analysis leads to risk informed *planning*, but is also inherently educative and raises awareness of hazards among vulnerable populations, an essential part of preparedness. Improved awareness is one of the reasons why DRR often works better in the aftermath of disasters. When

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[25] UNISDR defines DRR as: "The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events."

[26] "Relief aid must strive to reduce future vulnerabilities to disaster as well as meeting basic needs" http://www.ifrc.org/Docs/idrl/I259EN.pdf

[27] Found here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FEmergency%2FDRR%2FConcern%20DRR%20Documents%2FDRR%20documentation%20project%202015&FolderCTID=0x012000249576139AE0EA4280537A78DAD8D1CE&View=%7B661D9440%2D2B07%2D437A%2D97ED%2DEF5CA813FA50%7D These reports document Concern's DRR process in five contexts: mountains, coasts, rivers, drylands and urban areas. A synthesis report describes how DRR contributes to the building of community resilience. A learning brief compiles the main lessons learned from more than ten years of DRR programming.

[28] Risk analysis is variously referred to as: Hazard, Vulnerability and Capacity Assessment (HVCA), Vulnerability and Capacity Assessment (VCA), or Community Risk Assessment (CRA), but they all mean roughly the same thing.

the horror of the disaster is fresh in the minds of the vulnerable, they are more inclined to address risk. When times are good, people are more inclined to relax and 'take the risk'.

In contrast to many organisations, we take **a holistic approach to hazard identification** and consider any event that has the potential to cause harm, including conflict, to be a hazard.

This is of great importance when doing a risk analysis. All hazards must be identified. *Which* hazards are addressed is a choice that rests, ideally, with the community. *How* we address the hazards that have been prioritised depends on the hazard in question. Some mechanisms for addressing them would not normally be called DRR, but may be called WASH, livelihoods, equality, health or protection programming. Examples include addressing diseases through health programming, or addressing the insecurity of people caught up in conflict through protection programming.

For a full explanation of how to do a risk analysis, and the analytical frameworks that accompany the process, please refer to the *Risk Analysis Guidelines* (2012) and their annexes[29].

3.3 Mitigation

To mitigate is to make something smaller, or to reduce or diminish its severity[30]. In DRR, we seek to mitigate or reduce the *impact* of hazards. This is done in two ways: by reducing the scale, intensity or frequency of the hazards themselves, or by reducing the vulnerability of the people exposed to them. While many organisations include 'prevention' as a separate component, Concern thinks it highly unlikely that we can *prevent* hazards, and, as such, we strive to limit their impacts wherever possible. Mitigation includes both structural and non-structural measures.

Reducing the scale, intensity or frequency of hazards implies working with or on the causes of hazards.

Two main factors influence whether Concern can reduce the scale, intensity, or frequency of shocks and stresses:

- the level at which a hazard is created - e.g. local, national or international
- whether the hazard is natural or human in origin, or a mix of both

Generally, the higher the level at which a hazard is created, the more difficult it is for Concern to influence it. We cannot prevent the occurrence of all hazards. For example, Concern may be able to use peacebuilding approaches to prevent resource conflict between two villages, but it does not have the capacity to resolve national or international level conflicts. Neither Concern nor any other organisation can prevent hazards from occurring that are purely natural in origin. Droughts in the Sahel will always occur, due to natural climate variability.

However, few hazards are purely natural, and most hazards classified as 'natural' have, or are compounded by, factors that have social origins. Deforestation and climate change caused by humans can increase the prevalence of drought and floods, for example, and these issues should be addressed. Even if we cannot directly prevent a purely natural hazard, we should certainly work to reduce its impact.

[29] Found here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FEmergency%2FDRR%2FConcern%20DRR%20Documents%2Frisk%20analysis%20guidelines%202012&FolderCTID=0x012000249576139AE0EA4280537A78DAD8D1CE&View=%7B661D9440%2D2B07%2D437A%2D97ED%2DEF5CA813FA50%7D

[30] http://www.oxforddictionaries.com/definition/english/mitigation

Activities aimed at reducing the scale, intensity or frequency of hazards include:

- Natural resource management interventions, such as managing watersheds, conservation and reforestation, which improve soil water retention and infiltration, reducing both floods and droughts
- Flood walls and embankments which may reduce the scale of floods by channelling water away from exposed areas
- Slope stabilisation such as retaining walls and terraces which can reduce the incidence of landslides
- Drainage systems such as canals which delay floods and speed up their draining
- Dialogue and developing alternatives to violence form the core of peacebuilding which can significantly reduce the incidence of local level conflict and criminality
- WASH programming can reduce or even remove the incidence of water borne diseases

Reducing the vulnerability of people exposed to hazards includes many of our development activities, such as building up the asset base and addressing inequality. Activities that reduce vulnerability align with Concern's conceptualisation of extreme poverty[31]. In the Sahel, the ability to get through food crises is directly linked to the ability to produce a surplus in good years which can then be used to buffer production deficits in bad years, requiring improved food storage facilities. Conservation agriculture is a more drought tolerant form of agriculture as it maintains soil cover and structure at all times through the use of mulch and a no-tillage approach. WASH programmes addresses the dual issues of improving access to water and waste disposal assets, as well as reducing vulnerability to some biological hazards (such as cholera). Health programmes may address other key biological hazards, such as malaria, or acute malnutrition, a consequence of the interaction of shocks, stresses and a lack of assets. Safety net schemes, such as community saving circles, seed banks and state-run social protection schemes such as in Niger and Ethiopia, delay or prevent people from selling their productive assets and entering into spirals of debt and hunger.

Vulnerability to stresses can also be addressed using the logic of DRR. Climate smart agriculture (CSA) aims to reduce the vulnerability of agricultural systems to the impacts of climate change[32].

Other mechanisms of reducing vulnerability include:

- Constructing houses on raised plinths and waterproofing structures reduces their vulnerability to floods
- Protecting essential infrastructure like irrigation take-off points, wells, latrines and bridges from flash floods
- Earthquake proofing buildings
- Introducing hazard-tolerant crop varieties that can better withstand droughts, floods or saline conditions

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[31] See *How Concern Understands Extreme Poverty* here: https://concern2com.sharepoint.com/sites/KExchange/Publications/How%20Concern%20Understands%20Extreme%20Poverty.pdf#search=How%20Concern%20Understands%20Extreme%20Poverty

[32] As defined by the FAO, CSA practices enable farming communities to sustainably and reliably increase agricultural productivity and incomes; adapt and build resilience to extreme weather events and a changing climate; and where appropriate, contribute to reducing greenhouse gas emissions and concentrations. As noted in Concern's mini strategy for CSA draft 1.1, the third component (reducing greenhouse gases) may be less important than the other two components in low income contexts. See https://concern2com.sharepoint.com/sites/KExchange/Publications/Climate%20Smart%20Agriculture%20-%20SEDU%20Technical%20Briefinf%20Paper.pdf#search=csa%20strategy or the CSA documents on the intranet here: http://intranet/People/SAL/Departmental%20Share/Forms/AllItems.aspx?RootFolder=%2FPeople%2FSAL%2FDepartmental%20Share%2FClimate%20Smart%20Agriculture%20%28CSA%29&FolderCTID=0x012000E710D99C824CF445B81B6E3359B76F1F&View={DCF5671D-E1D1-4C2C-9F16-D7EA26B54B77}

- Planting fast maturing or short duration crops to help avoid harvests being damaged by early onset floods
- Using mosquito nets in areas prone to malaria, and ensuring that the most vulnerable, including women and children, have access to them
- Protection mechanisms for the vulnerable, such as women and children, caught up in conflict, including referral pathways and safe spaces

As the DRR documentation project has shown, mitigation is most successful when there is integrated programming – multiple initiatives in multiple sectors, working with multiple stakeholders at different levels.

We need to identify *who the vulnerable are in each community*. Given the complexity of vulnerability, it is not enough to make broad statements about who is vulnerable. **We need to tailor our programmes to address those who are *most* vulnerable, and to do this in ways that specifically address their vulnerability**. For example, in the flood season in Bangladesh, women living in flood zones suffer reproductive health issues, and so need better access to health facilities. This is an example of where DRR, health and equality programming converge.

3.4 Preparedness

We must recognise that, at times, disaster events will happen and we need to be prepared for them. **Preparedness means strengthening the capacity to respond to, cope with and recover from disasters**.

Essential preparedness actions include raising awareness and understanding of hazards and their causes (see risk analysis, section 3.2), establishing and/or strengthening the capacity of the DRR governance institutions (see section 3.9) and early warning systems (see section 3.10).

Other community preparedness activities include:

- Establishment of evacuation routes and procedures, and safe areas or shelters for evacuees to gather in
- Household and individual level preparedness such as safeguarding seeds, essential documents and livestock
- Establishing and training various task forces such as for search and rescue, first aid and distributions
- Establishing locally held contingency funds such as saving circles
- Establishing locally held stockpiles of essential response materials, such as grain banks
- Improving transportation infrastructure such as roads and bridges
- Identifying vulnerable people and linking them to safety net schemes, which can be activated in times of need

Preparedness also implies improving the capacity of response agencies such as Concern to effectively respond to disasters when a community's capacity to cope and recover is overwhelmed. Concern has an internal preparedness process, PEER (Preparedness for Effective Emergency Response) which is a compulsory annual action planning process for every country programme. PEER can also be used to build the response capacity of local organisations, so helping to improve the localisation of aid. PEER includes:

- Procedures to systematically monitor the humanitarian context, changes to the operational and policy environment, coordination systems, hazards, sources of information, etc.
- Thresholds of intervention, linked where possible to in-country EWEA[33] protocols
- Analysis of our systems, procedures and staff capacity

[33] Early Warning Early Action

- Ensuring the broad understanding of key principles and performance standards

For more details, please see the PEER guidance notes on the DRR sharepoint page[34].

3.5 Advocacy

DRR advocacy aims to address factors arising from the wider context that give rise to, or exacerbate, risk, and that can be influenced by other stakeholders. Many of these factors can be seen as stresses. Advocacy is also used to encourage the engagement of other actors when Concern's actions are insufficient to adequately alleviate risk. Advocacy is an essential accompaniment to mitigation and preparedness.

Advocacy can take many forms, including:

- Amplifying our voice and influence through consortia, collaboration and networks, to pressurise governments or other stakeholders to develop or change policies and practices
- Developing and targeting messages towards influential stakeholders
- Advocating for government to develop, improve or implement policies, where relevant, that are designed to reduce risk. Much of Concern's DRR advocacy work to date has been aimed at improving 'PIPs' (policies, institutions and processes)[35]. Concern can also contribute to the task of developing policies, manuals and guidelines.
- Local level campaigns to address risk causing behaviour, such as bush fires, waste disposal, inequality, etc. This form of advocacy can also be termed 'behaviour change'
- Encouraging government officials, such as those in meso level DRR institutions, to be involved in NGO supported DRR activities as a way of building their motivation and capacity for DRR
- Commissioning research into aspects of DRR, such as funding, policies, land tenure systems, etc., or documenting the realities of vulnerable people, to build an evidence base
- Documenting and sharing good practice and lessons learned
- Raising awareness of the importance of DRR through IEC[36] materials, events on International Day of Disaster Reduction[37] and other campaigns

Concern has identified a number of international advocacy messages[38]:

- Ensure that DRR is adequately funded. Investing in DRR saves lives, livelihoods and infrastructure, and also makes financial sense[39], but is widely held to be under-funded.

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[34] Found here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Preparedness%20for%20Effective%20Emergency%20Response/Forms/AllItems.aspx?RootFolder=%2Fsites%2FEmergency%2FDRR%2FPreparedness%20for%20Effective%20Emergency%20Response%2FPEER%20guidance&FolderCTID=0x0120003162B3D123078B458BBE1B9E41470F57&View=%7B8CAB6574%2D54C3%2D4E73%2DBD93%2DA734AFE12C4B%7D

[35] One example is the establishment of CODMERT, Community Disaster Management and Emergency Response Team, in Freetown, Sierra Leone, as an umbrella body linking various community disaster management committees to each other and to the central Disaster Management Directorate.

[36] Information, Education and Communication

[37] Which occurs annually on October 13th.

[38] These messages are described in detail in the paper "Concern's topline International DRR advocacy messages", found here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Approach%20to%20DRR%202016%20and%20associated%20documents/Concern's%20top%20line%20international%20DRR%20advocacy%20messages.pdf

[39] The 2015 GAR states that "Annual global investment of US$6 billion in appropriate disaster risk management strategies, would generate total benefits in terms of risk reduction of US$360 billion." http://www.preventionweb.net/english/hyogo/gar/2015/en/home/

- Reduce the underlying risk factors, many of which are stresses arising from the wider context, requiring concerted international and national attention. It is extremely difficult to see how we can have significant impact on risk without also addressing the underlying causes of risk.
- Make DRR a priority for all. As hazards affect everyone, DRR must be prioritised by the development sector, governments, the private sector and financing mechanisms.
- Ensure emergency response budget lines are not diverted to cover DRR interventions. Funding for DRR should come from development budget lines or specific budget lines established for DRR.
- Future proof all interventions so that they are resilient to predictable hazards, some of which will increase in intensity in the coming years as a result of climate change.
- Take the widest possible view of what a hazard is. Human derived hazards such as conflict cause immense suffering, and must be included in analytical and planning processes if we are to address them.
- Ensure that there is an understanding that everyday risk matters and needs to be addressed.
- Localise DRR and emergency response. It is at the local community level that the impact of disasters is most felt, and it is these communities that are generally the first responders to new disasters. Their knowledge, experience and expertise must be tapped into and used to the greatest possible extent.
- Address the specific risks of the most vulnerable. Programmes should address the specific vulnerabilities of groups that are identified as most vulnerable – such as the elderly, disabled or marginalised; even if the needs of these groups are more difficult to address.
- Engage the private sector. The private sector has a duty of care towards their employees, and should work to ensure the resilience of their human resources, as well as their supply chains and value chains.

3.6 Community capacity for risk reduction

Communities in risk prone areas often have forms of risk reduction adapted to their environment which allow them to live with their hazards. Some examples include:

- The Tonlé Sap in Cambodia swells to six times its dry season size during the monsoon, flooding the surrounding forests and fields. People living in this area have adapted to these annual floods by living on floating villages or, further away from the dry season shores, in houses on tall stilts. Their agricultural season is timed to coincide with the receding waters, which they hold back with low bunds and used for rice production. With the soil being fertilised by the seasonal floods, they can normally produce enough food for the entire year this way.
- Traditional buildings in earthquake zones are often more earthquake tolerant: in Kashmir, traditional houses which use a flexible wooden frame fared better than modern constructions in the 2005 earthquake[40].
- Simeulue islanders off the coast of Aceh, Indonesia, knew to evacuate from the coast once they felt the 2004 earthquake that triggered the tsunami; their indigenous knowledge meant only seven people died out of a population of 78,000[41].

As powerful as these indigenous mechanisms can be, they are not necessarily enough. Concern should seek to strengthen them, and our DRR activities should always build on existing knowledge and capacity for disaster risk reduction. Part of our role is to complement traditional mechanisms with external expertise.

[40] http://eird.org/publicaciones/Indigenous_Knowledge-DRR.pdf
[41] Ibid.

3.7 Community based DRR

It is only at the community level that we can work directly with the most vulnerable, and where the complexities inherent to all communities can be properly understood and addressed. This is where Concern traditionally works, and is where our strengths lie.

Community based DRR (CBDRR) starts with the perspectives of the vulnerable themselves, building on their capacities and knowledge. Our role as facilitators of this process would include conducting community level risk analysis and planning; ensuring the implementation of risk informed plans; establishing and strengthening community DRR governance institutions and linking them to meso and macro levels; and may include assisting communities to remove obstacles at higher levels that interfere with risk reduction, such as the absence of other actors or policies, or the existence of poor, or poorly-implemented, policies.

Identifying the small, localised but frequent everyday risks can only be done at the local level.

3.8 Community resilience

Community resilience is the ability of all vulnerable households or individuals that make up a community, to anticipate, respond to, cope with, or recover from the effects of shocks, and to adapt to stresses in a timely and effective manner without compromising their long-term prospects of moving out of poverty.

Community resilience is an outcome of DRR, and is based on a foundation of DRR logic with other long term development processes that aim to reduce vulnerability, in line with *How Concern Understands Extreme Poverty*.

Recognising that some approaches to resilience can be political, and come into conflict with our humanitarian identity[42], Concern has focused on building the resilience of communities, which includes the resilience of households and individuals.

There are four levels of capacity identified in relation to resilience[43]:

- **Anticipatory** capacity[44]: the ability to forecast hazards and reduce their impact through preparedness and planning.
- **Absorptive** capacity: the ability to cope with disasters. This ability is enhanced with preparedness measures and the reduction of vulnerability.
- **Adaptive** capacity: the ability to adapt existing structures and systems to better cope with disasters, given that the frequency of disasters will increase, or that a specific hazard will be protracted in nature. This ability is enhanced with learning from experience so that systems can be systematically improved over time.
- **Transformative** capacity: the ability to change structures and systems if the present systems prove untenable for dignified human existence. This ability requires changing the *status quo*, implying that we should seek to reduce the scale, intensity or frequency of hazards and address the underlying causes of risk.

To attain the four levels of resilience capacity, all components of DRR must be applied while working with vulnerable populations. **The logic of DRR is the cornerstone of resilience building**.

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[42] In some people's minds, resilience is linked to issues of national security, counter-terrorism and geopolitics. Concern would not be able to engage with these processes whilst maintaining our neutrality or independence.

[43] https://www.ids.ac.uk/files/dmfile/Wp405.pdf

[44] In addition to the three capacities identified by IDS, DfID includes this one. See: https://www.weadapt.org/knowledge-base/transforming-development-and-disaster-risk/the-3as-tracking-resilience

3.8.1 Concern's principles for programming for community resilience

Concern has developed the following key principles that, if followed, would result in a programme that builds resilience[45]:

1. Systematically undertake **risk analysis**, including analysis of future uncertainty and extreme conditions
2. Ensure programming is **coordinated** with other actors for a system-wide delivery of the whole 'resilience building package'
3. Reduce the **scale, intensity and frequency of shocks and stresses**, wherever possible
4. Reduce **vulnerability and the causes of vulnerability**, including through building assets and diversifying livelihoods
5. Address drivers of **inequality**
6. **Build coping and recovering capacity**, including enhancing access to safety nets, contingencies and social protection
7. **Build and enhance response capacity** for effective and timely emergency responses when needed
8. **Build institutions for efficient and equitable governance** and influencing of the wider context
9. Ensure sustainability by developing a **culture of innovation and learning** and designing your exit strategy from the outset

3.8.2 Resilience in the Sustainable Development Goals

Resilience is mentioned in a number of different places in the Sustainable Development Goals (SDGs) and their targets [46], both implicitly and explicitly. Concern is expected to contribute to these goals:

- **Goal 1: End poverty in all its forms everywhere**
  - Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters

- **Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture**
  - Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

- **Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation**
  - Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

- **Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable**
  - Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to

[45] For a more detailed explanation of these principles please see the paper 'Key principles for programming for community resilience.pdf ' here: https://concern2com.sharepoint.com/sites/KExchange/Publications/Key%20Principles%20for%20programming%20for%20Community%20Resilience.pdf#search=Nine%20principles%20of%20community%20resilience

[46] https://sustainabledevelopment.un.org/

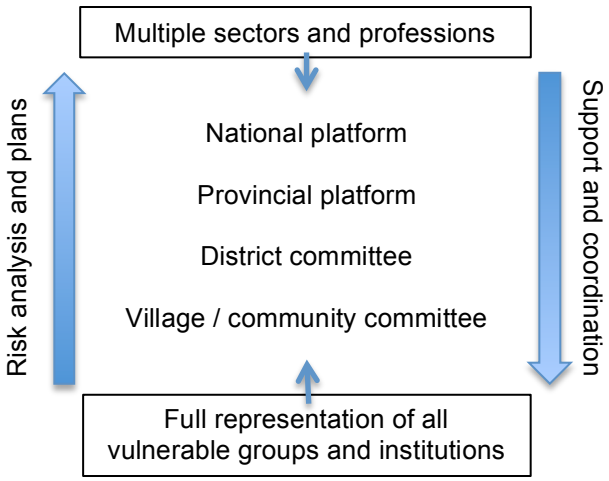
global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

- **Goal 13: Take urgent action to combat climate change and its impacts**
  - Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

3.9 Capacity building of DRR governance structures

A crucial part of DRR, and a large portion of preparedness activities, is **establishing and building the capacity of the institutional governance structures** upon which both risk reduction and emergency response depend. These bodies should be multi-sectoral, and represent those who are most vulnerable. Ideally, these structures should be linked to and part of government institutional structures. Governance bodies need to exist at all levels of an administration to ensure that DRR and emergency responses are coordinated, well-resourced and effective.

The flow diagram shows how risk analysis and plans generated at the community level flow upwards to the meso and macro levels. These plans attract resourcing and technical support which is allocated at the meso level to the community for implementation. The meso level is important for coordinating activities that span several administrative blocks, such as watershed management. They can be the most appropriate level for the pre-positioning of stockpiles of response materials.



The community (or micro level) disaster management committee (CDMC) is the most appropriate community institution that Concern would work with for community based DRR. In communities in which there is not a CDMC, steps should be taken to encourage the establishment of one, ensuring that the committee is properly representative of all vulnerable people, includes other key stakeholders such as health professionals and community leadership, and influential enough to able to make decisions on behalf of the community. It is the CDMC that would do the risk analysis and planning, and it is their responsibility to ensure that the wider community has sufficient understanding to be able to ratify plans, ensure their implementation, and represent the community at the meso level.

What goes into a DRR plan depends on the hazards that the community prioritises, but Concern has a responsibility to ensure that these decisions are sufficiently well informed that they are appropriate to the context. For more detail on what should be in DRR plans, please see the annexes of the risk analysis guidelines[47]. Plans should always clarify what the community can do without external assistance, what they can do with some assistance (and from whom that assistance would come), and what else needs to be done and by whom. The latter becomes an advocacy strategy. In many cases, integrating DRR plans into community development plans is necessary for coherence and improved access to government funding.

The national platform "serves as an advocate of DRR at different levels and provides coordination, analysis and advice on areas of priority requiring concerted action through a coordinated and

47 https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/risk%20analysis%20guidelines%202012/Risk%20Analysis%20Guidelines%20Annexes%20-%20Sept%202012.pdf

participatory process. A National Platform for DRR should be the coordination mechanism for mainstreaming DRR into development policies, planning and programmes."[48]

3.10 Early Warning Systems

Four essential components of an EWS

1. Risk knowledge
Hazards and associated vulnerabilities must be clearly understood.

2. Accurate and timely warnings
Warnings must be early to be useful; and accurate – false warnings can result in a loss of faith in the EWS and increase future risks.

3. Dissemination of warnings
Warnings need to be communicated to people likely to be affected by the hazard, and agencies likely to make a response, in a language that is understandable and useful.

4. Knowledge and preparedness
Those who receive the warnings need to know what to do – preparedness planning, awareness and simulations are essential.

Early warning systems are a vital part of preparedness. DRR institutions, especially at the micro and meso levels, play an important role in the collection and analysis of information related to hazards, disseminating warnings and ensuring that preparedness and contingency plans are in place and acted upon. The box shows the four essential components of an early warning system.

For some hazards early action may be possible – activities to be taken before the shock happens (such as for cyclones and floods), or before the impacts of a shock reach crisis levels (such as drought and food insecurity). Early Warning Early Action (EWEA) requires multiple thresholds to be determined, and actions assigned to multiple stakeholders for each threshold. Concerted advocacy efforts are needed to ensure the political will to assign and act on thresholds, both by governments in affected countries and donors who would be expected to fund early actions.

For Concern, early action can be improved by designing crisis modifiers[49] into programmes, systematically monitoring international national and local sources of early warning information, assigning thresholds and response actions that should be taken, and initiating 'no regrets'[50] activities when uncertainty is high.

Not all hazards can be predicted. While we cannot pinpoint when an earthquake will happen, we are able to identify the places where they are likely to happen, and by studying the build-up of stress in the Earth's crust, we can assess the likelihood of earthquakes happening in these seismically active zones. The pattern of aftershocks is, however, more amenable to being forecast[51].

[48] http://www.preventionweb.net/files/601_engguidelinesnpdrr.pdf
[49] Flexible budget lines that can be re-assigned for use in emergency response and/or early action. This flexibility is pre-negotiated with donors so as to avoid lengthy negotiations at the time the funds are required.
[50] "No-regrets" actions are actions by households, communities, and local/national/international institutions that can be justified from economic, and social, and environmental perspectives whether natural hazard events or climate change (or other hazards) take place or not. Heltberg, Siegel, Jorgensen, 2009; UNDP, 2010, https://www.ids.ac.uk/files/dmfile/SiegelJorgensen2011RiskAdjustedSocialProtectionFloor02CSPconferencedraft.pdf.
[51] Concern is working with Professor John McCloskey of the University of Edinburgh to develop an aftershock forecasting tool for informing humanitarian choices during an emergency response to a damaging earthquake.

3.11 International DRR and Resilience Institutions

A number of international frameworks and institutions have been developed to support DRR initiatives. Concern will work within and contribute to these while retaining our focus on poor and vulnerable communities.

3.11.1 UNISDR

The United Nations Office for Disaster Risk Reduction, or UNISDR[52], is the leading global institution for DRR and serves as the focal point in the United Nations system for the coordination of disaster reduction[53]. It supported the implementation of the Hyogo Framework for Action (HFA, 2005 - 2015), which was replaced in March 2015 by the **Sendai Framework for Disaster Risk Reduction** (SFDRR, 2015 - 2030). It runs the bi-annual global platforms for DRR, and facilitates the establishment of regional and national DRR platforms.

The key points of the **Sendai Framework for Disaster Risk Reduction 2015-2030**[54] are:

Expected outcome:

- The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

The goal is:

- To prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

SFDRR Priorities for Action:

1. **Understanding disaster risk** focuses on risk analysis, awareness raising and deepening our collective understanding of hazards and risk by developing partnerships with academic institutions, uniting science and indigenous knowledge, and building an evidence base of DRR measures.

2. **Strengthening disaster risk governance to manage disaster risk** focuses on institutions for DRR which play a critical role in representing the most vulnerable people, undertaking risk analysis, planning, and implementation. It emphasises that every level of governance from the local up to the international, is expected to play its part in disaster risk reduction.

3. **Investing in disaster risk reduction for resilience** emphasises that everyone should invest in DRR. This includes donors, governments, international organisations, NGOs, CSOs, the private sector, the insurance sector, communities and individuals. Investment is not only financial, but can also be made in terms of time and effort. This includes securing investments that have already been made such as critical infrastructure, cultural heritage, livelihoods, etc.

[52] The Secretariat for the International Strategy for Disaster Reduction (ISDR).
[53] http://www.unisdr.org/2012/docs/whoweare/UNISDR_Factsheet.pd fand http://www.unisdr.org/who-we-are/international-strategy-for-disaster-reduction
[54] http://www.wcdrr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf

4. **Enhancing disaster preparedness for effective response, and "building back better" in recovery, rehabilitation and reconstruction** focuses on early warning systems, preparedness planning and integrating DRR principles into the recovery processes after disasters. The aftermath of disasters is an ideal opportunity for reducing future risk.

The SFDRR is considered to be weaker than its predecessor, the HFA, in a number of areas, including the key one that it has lost any focus on addressing underlying risk factors such as the global drivers of disaster increase. There remains no specific focus on the local level, and while people with disabilities have been included, other marginalised vulnerable groups have not.

3.11.2 GNDR

The Global Network of civil society organisations for Disaster Reduction (GNDR)[55] is a network of civil society organisations advocating for improvements in disaster risk reduction policy and practice at every decision making level, particularly the local.

GNDR has identified six crucial roles that civil society can play in relation to DRR[56]. These can offer important guidance for Concern's relationship with SFDRR, and our engagement with other DRR actors.

- **Implementer:** Delivering local level action in partnership with the state and other groups
- **Capacity Builder:** Strengthening capabilities at the local level
- **Knowledge Broker:** Identifying, developing and sharing knowledge, expertise and innovative practices
- **Connector:** Building bridges across different groups and scales to strengthen local level engagement
- **Monitor:** Ensuring greater accountability through monitoring and reporting local level progress
- **Advocate:** Mobilising and standing up for the needs and priorities of marginalised people

3.12 Catastrophic and everyday risk are equally important

Catastrophic or intensive risk events are large events which occur in areas of dense population and economic activity – such as urban areas. When these occur in relatively poor countries, and the local capacity to respond is overwhelmed, we should mount emergency responses. Given their potential for causing enormous damage, we should seek to reduce the impacts of catastrophic events as much as possible through DRR.

However, the compound impact of everyday risk affects and kills more people on an annual basis, and is highly erosive of livelihoods. Everyday or extensive risk is multiple small, highly localised, but very frequently occurring events that, taken together, *keep poor people poor*. Single everyday risk events such as small scale flooding resulting from heavy rainfall would rarely be large enough to warrant an emergency response, but they damage assets and keep people from their livelihoods. Everyday risk can, and should, be addressed through mainstreaming DRR into our long term programming.

[55] http://www.globalnetwork-dr.org
[56] http://www.gndr.org/images/newsite/PDFs/Reality%20Check%20-%20Impact%20at%20the%20Frontline_EN.pdf

3.13 Mainstreaming DRR as a cross-cutting issue

Hazards cut across all sectors, and all sectors can contribute to reducing risk.

Concern's strategic planning and contextual analysis process is designed to ensure that we are working in the right place, with the right programmes, for the right people, in the right way. A risk analysis must therefore be embedded into these analysis and planning steps. Similarly, designing programmes and individual activities or projects must also only be done once a full risk analysis has been completed.

It is clear that **risk analysis precedes *any* programme design**, whether it is designing a full programme, an individual installation like a well, or a human resource management plan. *This is what we mean by mainstreaming DRR: systematically undertaking risk analysis and using it to inform our choices, so that all activities reduce risk*.

Gender and HIV&AIDS mainstreaming uses the 3'A's: Assess, Analyse, Address. This useful model for mainstreaming can easily be adapted for DRR:

- **Assess**: what are the hazards, their causes and impacts, who is vulnerable to them and why, and what capacities do they have to reduce risk?
- **Analyse**: in the light of the programme goals and other factors from the context, how can our improved knowledge of hazards, vulnerabilities and capacities be used to reduce risk, or how can we address and reduce the obstacles that may prevent our programme from being successful?
- **Address**: the results of the analysis are incorporated into the programme, which is then implemented.

Donors are more likely to support programmes that have DRR mainstreamed into them, as opposed to stand-alone DRR programmes.

There are however instances when stand-alone DRR programmes are necessary, such as:

- The establishment and capacity building of the DRR institutional structure (such as Disaster Management Committees), as these bodies are multi-sectoral and so, in some ways, are 'outside' sector-based programmes.
- Mitigation or preparedness measures for very intense hazards, such as the construction of cyclone or flood embankments or shelters. Infrastructure projects like these can be expensive and do not necessarily fit into livelihoods, health or education sectoral programmes.

An example of mainstreaming DRR

Imagine that a contextual analysis indicates that returns from agricultural produce are poor. You have to design a livelihoods programme to improve this situation.

Following the logic of DRR, a risk analysis must be done first. You need to know the risk context specific to all programme locations. You will also need to know how hazards impact on your primary beneficiaries and the value chain.

This will show how hazards affect the production of the crops, their storage, transportation and sale. There may be hazards at each step of the value chain - such as cyclones, policies that prohibit fair terms of trade, insecurity or exploitative middle-men - that are obstacles to the successful selling of farm produce. The livelihoods project should ensure that the produce can still reach the market in spite of cyclones; perhaps through making the road resilient to cyclones, equipping cold stores with back-up generators in case the main generator is damaged, or installing stores at strategic places so that if the transport system breaks down, the produce will not be harmed in the meantime. Additionally, an advocacy strategy seeking better policies, a protection strategy addressing insecurity, or the establishment of a marketing association for better prices could also be added.

There may be stresses, like population growth or climate change, to consider, and these long term processes may result in adopting new techniques of production, creating more reliable sources of irrigation water, or finding alternatives to farming for some people.

Through actions such as these, the programme becomes *risk informed*. It is still, at heart, a value chain programme, but the incorporation of DRR into it helps to ensure that the programme outcomes are sustainable and future proofed.

It is recommended that addressing institutions and the larger engineering interventions are united into one stand-alone DRR programme.

3.14 Climate change and DRR

The impacts of climate change are many and varied, and some predictions remain uncertain, but the 2013 Special Report on Extreme Events (SREX[57]) shows that climate change is increasing the incidence and intensity of some events, namely extreme temperatures, heavy precipitation and floods, wind speed and intensity of tropical cyclones, droughts, and extreme coastal high water levels (linked to sea level rise).

The table below shows some of the impacts of climate change on Concern's programme sectors, with some of the knock-on consequences of those impacts on the lives and livelihoods of the extreme poor.

In all of Concern's countries of operation, there are already some common impacts of climate change being noted, including:

- Increasing variability of the start and end of the rainy season
- Increasing variability in the distribution of rainfall: increasing frequency of heavy rainfall events and dry spells
- Increasing variability of the quantity of rain in rainy seasons
- Increasing number of hot days and nights

Sector	Impacts	Consequences 1	Consequences 2
Education		- ↓ livelihoods lead to reduced enrolment, drop outs, etc. - ↓ attendance at school due to increased disasters	- ↑ failure to meet SDGs, etc.
Emergencies	- ↑ floods, storms, surges, droughts - ↑ conflict	- ↑ mortality and loss of livelihoods, essential infrastructure, etc.	- ↑ migration - ↑ emergency responses
Health	- ↓ water quality - ↓ all-year access to drinking water - ↑ range of mosquitoes	- ↑ water borne diseases - ↑ malaria, dengue, etc.	- ↑ overburdening of health services - ↑ malnutrition
HIV&AIDS		- ↑ dangerous coping strategies including unsafe transactional sex	- ↑ transmission linked to migration and urbanisation
Livelihoods	- ↓ biodiversity - habitat change - ↓ productivity of cereals in low latitudes - ↓ reliability of rainfall - ↑ saline intrusion	- ↓ livelihood security - ↓ access to natural resources - ↑ agricultural land degradation	- ↑ migration - ↑ malnutrition - ↑ hunger

Table 2: some impacts of climate change on Concern's sectors of work

[57] http://ipcc-wg2.gov/SREX/

3.14.1 Addressing climate change

Climate change can be addressed in two distinct ways: climate change mitigation and climate change adaptation.

Climate change mitigation[58] addresses the causes of climate change. This is done either by the reduction of emissions of greenhouse gases, or the removal of those gases from the atmosphere, which is known as sequestration.

Emissions should be controlled from the industry, energy, transportation, housing, forestry and agriculture sectors. Sequestration is done mainly by increasing the biomass of plants which actively take up carbon dioxide during photosynthesis. The main terrestrial ecosystem that can do this are forests (especially tropical ones). Oceanic algae can also store significant quantities of carbon. Arresting and stopping deforestation and forest degradation slows down emissions derived from these processes, and reforestation increases the storage capacity of carbon.

The majority of emissions control can only realistically be done by government regulation of industrial and transportation emissions, or regulation of deforestation. The UNFCCC and the annual COPs[59] remain our best hope for negotiating tighter emissions control. The 2015 Paris Agreement, from the COP21, is the first agreement that aims to hold the increase of global temperatures well below 2^0C, and hopefully only to 1.5^0C. It will support low greenhouse gas emissions development and make finance available for climate resilient development[60].

Climate change adaptation starts with the recognition that the global climate is changing and will continue to change. Even if emissions are reduced, climate will continue to change due to a time lag between the emission of greenhouse gases and the impact that these emissions have on the climate.

Adaptation to climate change must include DRR, and **DRR must include climate change adaptation**. Also required are improved health systems to address increases in some diseases, and 'climate smart' food production systems. Adaptation must be environmentally friendly and sustainable, and designed to take into account uncertainty, as there are many impacts of climate change that we do not yet understand or cannot predict. *Adaptive capacity* to this, and other stresses, is required[61].

Our *primary* focus should be on how we can assist the extreme poor to adapt to a changing climate and future. Additionally, we should reduce emissions from our operations and programmes, and engage with international advocacy on emissions control.

3.15 DRR and conflict

The logic of DRR applies as much to conflict as it does to other hazards. Conflicts can be broadly categorised as follows, but note that these categories are not exclusive and have considerable overlap, and many conflicts could be characterised as belonging to a number of these. The

[58] Be aware that both the climate change and DRR communities use the word 'mitigation', but that they refer to different contexts and methodology.
[59] The UNFCCC (United Nations Framework Convention on Climate Change) is an international environmental treaty that aims to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropomorphic interference with the climate system. The parties to the convention meet every year at the Conference of Parties (COP) meetings. The UNFCCC is also the name given to the UN secretariat charged with supporting the convention.
[60] https://en.wikipedia.org/wiki/Paris_Agreement and https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf
[61] https://en.wikipedia.org/wiki/Adaptive_capacity

makeup of a given conflict's parties might lead to a further layer of classification, namely as interstate state, intrastate or non-state conflicts[62].

- **Political / identity conflict**: is driven by competition for political power and political goals and/or collective identities such as ethnicity. An example of this would be the current conflict in South Sudan.
- **Resource conflict**: refers to violent competition over resources. Resource inequalities may be real or perceived, and can occur around essential assets such as water or land as well as material resources ranging from livestock to valuable minerals.
- **Local conflict**: occurs when violence is triggered by local events. This can be political (internal disturbances such as election violence), identity-based (e.g. clan warfare in Somalia)or driven by access to and control of resources, such as is found in many small conflicts between pastoralists and settled farmers, (e.g. Northern Kenya and Chad).
- **Organised criminal violence**: occurs when gangs seek to control geographic areas for their use in criminal enterprise, such as in Port au Prince, Haiti. This conflict can be between different gangs, or between a gang and the state security services.

The level at which the conflict is triggered influences whether we can seek to reduce its scale, intensity or frequency. In Somalia, we cannot hope to influence the broader higher level conflict between Al Shabaab on the one hand and the government and international forces on the other, but we could, for example, help mitigate a local level conflict over a water point.

There are three broadly different means of engagement with conflict – working **on**, **in** or **around** conflict:

Working on conflict refers to taking proactive measures to address the dynamics of a conflict itself through direct forms of engagement. This approach may be evident in Concern's facilitation of a peacebuilding process, in which the communities with which we work are empowered to reduce tensions or violence in their locality. This normally includes processes of dialogue to seek common ground, identify and develop alternative livelihood options, development initiatives that reduce local tensions, education and awareness raising, involving women in conflict management processes, etc. Our peacebuilding work in Port au Prince, facilitating negotiation processes between pastoral and agricultural communities in Chad, and the marking of migratory routes of nomadic communities in the Horn of Africa to help prevent seasonal conflicts with settled populations are examples of this. Working to alter the dynamics of conflict may impact positively on a conflict-affected context, but may pose risks around ensuring full adherence to the humanitarian principles, or at least to the perception that the parties to the conflict have of this, which may have implications for the security of our staff.

Working in conflict refers to ensuring that we are not contributing to a conflict, and that we are adapting existing programmes to better deal with the effects of the conflict. It implies addressing the humanitarian needs of the affected people through the use of conflict sensitive approaches, humanitarian negotiation, elements of protection, and retaining the capacity to adjust programmes to respond to conflict's unforeseen effects.

Conflict sensitive approaches are measures taken by programme teams to maximise the positive impacts of interventions on conflict dynamics, while being careful not to aggravate latent or more obvious tensions. They can include ensuring that our interventions do not make beneficiaries more likely to be targeted, remaining strictly impartial in our beneficiary selection processes, not favouring any side or armed faction involved in the conflict, and, at times, not accepting money from donors associated with belligerents to the conflict. Examples include our refusal to engage

[62] See glossary for definitions, which are derived from http://www.hsrgroup.org/our-work/security-stats/Definitions.aspx.

with the NATO 'hearts and minds' campaign of development in conflict areas in Afghanistan through use of funding provided through the PRTs[63], and ensuring that beneficiary groups are properly representative of different local groups, to prevent the perception of one group being favoured over another and aggravating intergroup tensions (e.g. CAR and Somalia).

Humanitarian negotiation is a key skill that is required amongst our staff, to negotiate access to affected populations living in contested areas, or in territory under the control of armed opposition groups who may be suspicious of international NGOs. An example is negotiating access to affected populations in Al Shabaab held territory in Somalia or Taliban held territory in Afghanistan.

Protection seeks to reduce exposure to and mitigate the impact of violence, exploitation or harm among people most affected by crises or conflict. Programmes seeking to strengthen protective strategies must incorporate a detailed risk analysis that considers the particular vulnerabilities of different groups to identified threats. Examples of protective responses vary across contexts and include a range of measures including ensuring a gender balanced staff, ensuring adherence to the Programme Participant Protection Policy (P4), and reducing the need for people to adopt high risk strategies by ensuring that basic needs are met. Other more programme specific measures Concern has taken have included awareness raising on child protection to reduce the incidence of GBV in schools.

Adjusting programmes to respond to conflict's unforeseen effects includes: having crisis modifiers or other mechanisms that allow for swift emergency responses to be built into existing programmes, being able to 'follow' displaced populations, and maintaining a strong capacity for humanitarian negotiation and security management in order to maintain programmes wherever possible.

Working around conflict refers to viewing conflict as a disruptive factor to be avoided or even ignored. This is not a preferred way of working for Concern as it does not lessen vulnerability or mitigate the impacts of conflict on affected populations. However, there may be instances where we suspend or pause programmes due to changing conflict dynamics in that area.

3.16 Measuring DRR and resilience

Measuring the outcomes and impact of DRR is difficult for a number of reasons:

- How we measure 'counterfactuals' – i.e. things that did not occur, but we think might have occurred if something had not been done to reduce their incidence or impact. We simply do not know what would have happened had our interventions not been undertaken. This makes any clear statements on the success of DRR rather difficult and reliant on precedent-based inference rather than hard data.
- Statistical analysis of mortality and morbidity only works over large timescales or areas. It is less useful when comparing two events, such as cyclones. These may kill or affect different numbers of people, but these differences may be due to different cyclone intensities or population density where the main path of the storm passed. Lower mortality does not necessarily mean that DRR has been successful.

Proxy indicators are indirect measures or signs that approximate or represent a phenomenon in the absence of a direct measure or sign[64]. For example, we can assume that preparedness is improved when a simulation of a disaster shows that vulnerable people are able to follow the contingency plan.

[63] Provincial Reconstruction Teams. See https://en.wikipedia.org/wiki/Provincial_Reconstruction_Team for more information.
[64] http://www.businessdictionary.com/definition/proxy-indicator.html

The assumption is that a community that has certain conditions or structures present is more resilient. These are known as the 'characteristics of a resilient community' and have been used to form the Community Resilience Indexing System (CRIS[65]). This logic also appears in other community resilience measurement systems being trialled by Concern[66].

[65] The CRIS is being field trialled, but the indicators for each characteristic, and their scoring system, can be found here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FEmergency%2FDRR%2FConcern%20DRR%20Documents%2Fcommunity%20resilience%2FCommunity%20Resilience%20Indexing%20System%20CRIS&FolderCTID=0x012000249576139AE0EA4280537A78DAD8D1CE&View=%7B661D9440%2D2B07%2D437A%2D97ED%2DEF5CA813FA50%7D

[66] At the time of writing, these include the flood resilience system designed by Zurich Reinsurance, SHARP, designed by FAO, and the 'Key Performance Indicator 4' suite of indicators, being used in BRACED programmes. For more information and guidance on measuring DRR and resilience please refer to the PM&E guide or get in touch with Concern's M&E advisors.

Part Four: Glossary of Terms

Adaptive capacity

Adaptive capacity is defined as the ability of a system to adjust to new conditions and change without losing their long term prospects. As applied to human social systems, adaptive capacity is determined by:

- the ability of institutions and networks to learn, and store knowledge and experience
- creative flexibility in decision making and problem solving
- the existence of power structures that are responsive and consider the needs of all stakeholders (Wikipedia)

Capacity

The combination of all the strengths, attributes and resources available within a community, society or organisation that can be used to achieve agreed goals (ISDR 2009).

Catastrophic risk

High intensity events happening in areas of dense population and economic activity – such as in urban areas, or along many coastlines. Usually generates very high intensity impacts. Also known as **intensive** risk.

Community resilience

The ability of all vulnerable households or individuals that make up a community, to anticipate, respond to, cope with, and recover from the effects of shocks, and to adapt to stresses in a timely and effective manner without compromising their long-term prospects of moving out of poverty.

Covariate risk

See widespread risk.

Disaster

A damaging physical event, phenomenon or human activity which has occurred and caused any or all of the following: the loss of life, injury, physical damage, environmental degradation, and social or economic disruption. A disaster occurs when the capacity of a community to withstand, respond to and recover from the impact of an event is overwhelmed.

Emergency

A disaster that has affected sufficient numbers of people to warrant a response from the organisation. Events that happen in countries in which Concern is already operational will be largely handled by the country team, and guided by that country's thresholds of intervention. Concern will also respond to emergencies outside of our countries of operation where the scale of need overwhelms the response capacity of the government and other humanitarian responders.

Everyday risk

Small, highly localised, but very frequently occurring events that, cumulatively, can disproportionately impact the assets of poor families and contribute to maintaining poverty. Also known as **extensive** risk.

Extensive risk

See everyday risk.

Hazard

A *potentially* damaging physical event, phenomenon or human activity which **may** cause any or all of the following: the loss of life, injury, physical damage, environmental degradation, and social or economic disruption.

Idiosyncratic risk
See localised risk.

Intensity
The strength of a hazard, expressed in different ways depending on the hazard type. Earthquakes are expressed in Mw (moment magnitude scale), cyclones as maximum sustained wind speed. Floods can be measured in terms of volume and flow (m3/sec) or as a combination of frequency and intensity (a 1 in 50 flood events only happen once every 50 years, based on historical records. However, historical records are becoming less relevant due to climate change and the increasing frequency of large events).

Intensive risk
See catastrophic risk.

Interstate conflict
Conflict between the armed forces of two or more states.

Intrastate conflict
Conflict between a State and at least one organised armed group taking place largely within the territory of the State in question.

Local conflict
Conflict which occurs when violence is triggered by local events. This can be political (internal disturbances such as election violence), identity based or driven by access to and control of resources.

Localised risk
A risk that affects an individual household. Also known as **idiosyncratic** risk.

Non-State conflict
The use of armed force between two organised armed groups, neither of which is the government of a State.

Organised criminal violence
Conflict which occurs when gangs seek to control geographic areas for their use in criminal enterprise. This conflict can be between different gangs, or between a gang and the state security services.

Peacebuilding
Processes that empower communities to create and consolidate peace gains to avoid and deter relapses into conflict.

Political / identity conflict
Conflict driven by competition for political power and political goals and/or collective identities such as ethnicity.

Resource conflict
Violent competition over resources. Resource inequalities may be real or perceived, and can occur around essential assets such as water or land as well as material resources ranging from livestock to valuable minerals.

Scale
The geographical area affected by a hazard.

Shock
A sudden event that impacts on the vulnerability of a system and its components. A slow onset shock is when the event passes a tipping point and becomes an extreme event. A hazard can be seen as a potential shock.

Stress
A long-term trend that undermines the potential of a given system, and increases the vulnerability of actors within it.

State conflict
Situation in which a State employs forces against its own population.

Vulnerability
People's susceptibility to a given hazard, determined by the extent to which they are exposed to and can anticipate, cope with, respond to and recover from its effects. Vulnerability is a set of conditions and processes resulting from physical, social, economic and environmental factors which increase the susceptibility of a household or a community to the impacts of a hazard.

The wider context
Features arising from outside of, but which have a positive or negative impact on, the community or place where an analysis of risk is being undertaken. Concern classifies these features into political, social, economic and environmental.

Widespread risk
A risk that affects all households in a locality and arises out of factors that prevail on all the households equally, such as rainfall and market price conditions. Also known as **covariate** risk.

Part Five: Further reading

The following links point to internal and external resources on different aspects of DRR.

Relevant general Concern documents

- How Concern Understands Extreme Poverty: https://concern2com.sharepoint.com/sites/KExchange/Publications/How%20Concern%20Understands%20Extreme%20Poverty.pdf#search=How%20Concern%20Understands%20Extreme%20Poverty
- Concern strategic plan 2016-2020: https://concern2com.sharepoint.com/sites/KExchange/Publications/Concern%20Worldwide%20Strategic%20Plan%202016-2020.pdf#search=strategic%20plan%202016

Concern DRR documents

Accessing these documents requires you to log in to the Concern sharepoint. They can be found on the DRR page here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Forms/AllItems.aspx

Alternatively they can be obtained from the DRR Advisor at dom.hunt@concern.net

- Risk Analysis Guidelines
- Risk Analysis Guidelines Annexes
- PEER guidance notes
- DRR Top Line International Advocacy messages
- 9 Principles for Programming for Community Resilience
- Concern's 'mini' strategy on community resilience
- Community Resilience Indexing System (CRIS)
- Generic logframe for DRR programmes
- Concern DRR strategy 2016-2020

DRR documentation project papers

Accessing these documents requires you to log in to the Concern sharepoint. They can be found on the DRR page here: https://concern2com.sharepoint.com/sites/Emergency/DRR/Concern%20DRR%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FEmergency%2FDRR%2FConcern%20DRR%20Documents%2FDRR%20documentation%20project%202015&FolderCTID=0x012000249576139AE0EA4280537A78DAD8D1CE&View=%7B661D9440%2D2B07%2D437A%2D97ED%2DEF5CA813FA50%7D

- DRR documentation country papers
- DRR documentation context papers
- DRR documentation synthesis paper
- DRR documentation lessons learned paper

External resources for DRR

- Profiles of hazards, country risk profiles and lots more: www.preventionweb.net
- Disaster database: www.em-dat.be

- Sendai Framework for Disaster Risk Reduction: http://www.unisdr.org/we/coordinate/sendai-framework
- Hyogo Framework for Action: http://www.unisdr.org/we/coordinate/hfa
- Global Assessment Reports on Disaster Risk Reduction (ISDR): http://www.unisdr.org/we/inform/gar
- World Disasters Reports (IFRC): https://www.ifrc.org/en/publications-and-reports/world-disasters-report/world-disasters-report/
- Financing Disaster Risk Reduction (ODI): http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8574.pdf
- HPN Good Practise Review on Disaster Risk Reduction: http://www.odihpn.org/hpn-resources/good-practice-reviews/disaster-risk-reduction
- Global Network for Disaster Reduction (GNDR): http://www.gndr.org
- Index for Risk Management (INFORM) Country Risk Profiles: http://www.inform-index.org
- Country seasonal hazard calendars (WFP): http://www.hewsweb.org/hazcal/
- Gender and disaster sourcebook: http://www.gdnonline.org/sourcebook/
- MunichRe NatCatService: http://www.munichre.com/en/reinsurance/business/non-life/natcatservice/index.html
- Catastrophes Naturelles (French language): http://www.catnat.net/index.php?option=com_content&task=category&id=16&Itemid=21

Selected Donor policies

USAID

- Crisis and conflict strategic aims: http://www.usaid.gov/what-we-do/working-crises-and-conflict
- Hazard-Specific Disaster Risk Reduction Implementation Guide: http://www.usaid.gov/sites/default/files/documents/1866/12.30.13_Hazard_Specific_DRR_Guide_bleed.pdf
- Global Resilience Partnership: http://www.globalresiliencepartnership.org

European Union

- EU strategy for supporting disaster risk reduction in developing countries (2009): http://ec.europa.eu/development/icenter/repository/COMM_PDF_COM_2009_0084_F_EN_COMMUNICATION.pdf
- The EU approach to resilience: learning from food security crises (2012): http://ec.europa.eu/echo/files/policies/resilience/com_2012_586_resilience_en.pdf
- DG-ECHO Thematic policy document: Disaster Risk Reduction: Increasing resilience by reducing disaster risk in humanitarian action (2013): http://ec.europa.eu/echo/files/policies/prevention_preparedness/DRR_thematic_policy_doc.pdf
- DIPECHO financing mechanism: http://dgecho-partners-helpdesk.eu/financing_decisions/dipecho/start
- ECHO Resilience Marker: http://dgecho-partners-helpdesk.eu/action_proposal/fill_in_the_sf/section5

DFID

- Humanitarian Emergency Response Review (HERR): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67579/HERR.pdf
- Saving lives, preventing suffering and building resilience (2011): https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67468/The_20UK_20Government_s_20Humanitarian_20Policy_20-_20September_202011_20-_20Final.pdf

- Defining Disaster Resilience and a framework of resilience: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/186874/defining-disaster-resilience-approach-paper.pdf

Irish Aid

- Policy for International Development (2013): https://www.irishaid.ie/about-us/policy-for-international-development/

Climate Change resources

- International Panel on Climate Change (IPCC) 5th Assessment Reports (AR5): http://www.ipcc.ch/report/ar5/
- International Panel on Climate Change (IPCC) Special Report on managing the risks of extreme events and disasters to advance climate change adaptation (SREX): http://www.ipcc.ch/report/srex/
- United Nations Framework Convention on Climate Change (UNFCCC): http://unfccc.int/essential_background/items/6031.php
- DARA Climate change vulnerability monitor: http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2012/
- World Bank Climate Change Knowledge Portal: http://sdwebx.worldbank.org/climateportalb/
- UNDP Climate Change country profiles: http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/
- COP21 Paris Agreement: https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf