



# ACTED



## Disaster Risk Management Strategy Towards Resilient Communities



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## Rationale for Disaster Risk Management and Building Resilience

Each year we witness strikingly similar images of loss and destruction caused by natural and manmade disasters. Between 1992 and 2012, disasters caused more than 1.3 million deaths, affected more than 4.4 billion people (64% of the world's population) and led to US\$ 2 trillion in economic damages and losses around the world – that is approximately 25 years of total Overseas Development Aid. In terms of economic damage, 2011 was the costliest year for natural disasters with estimated disaster losses of US\$ 380 billion (source WB). Hydro-meteorological disasters such as destructive sudden rains, intense tropical storms, repeated flooding and droughts are responsible for a large proportion of losses. And, while the trend for earthquakes, tsunamis and volcanic eruptions is fairly stable, climate disasters are on the rise. These disasters account for almost 75% of all events recorded between 2000 and 2012 up from around 50% two decades ago. For example, between 1980 and 1990, 584 disasters related to flooding were recorded while between 2000 and 2010, the number of flood disasters had risen to 2,022 - a staggering 346% increase. Floods and droughts alone affected 3.5 billion people out of the total 4.4 billion.<sup>1</sup> The intensity and possibly frequency of such hydro-meteorological disasters can be expected to rise as climate change proceeds.<sup>2</sup> Population growth, urbanization – especially in hazardous places – and economic development entail accumulated risk and increasing potential for human and economic loss. For communities at the grassroots level, it is not just the mega-disasters hitting the headlines that impact on their lives, the majority of the disasters are small to medium scale recurring disasters that periodically affect livelihoods and hamper sustainable economic development.<sup>3</sup>

**Disasters are deadly, costly, and becoming more frequent!**



### Disasters disproportionately affect the poorest and most marginalized individuals



Disasters are a fundamental factor constraining development initiatives and poverty eradication such as the Millennium Development Goals (MDGs). Eight of the ten most affected countries (1992-2011) were developing countries in the low-income or lower-middle income country groups. Honduras, Myanmar and Nicaragua have been identified to be the most affected in this 20-year period followed by Bangladesh, Haiti and Vietnam.<sup>4</sup> From 1998 to 2008, 97% of people affected by disasters were in countries with low or medium human development.<sup>5</sup> Disasters disproportionately affect poor people in these countries because they erode material and non-material assets, making them poorer and more vulnerable to further stresses and shocks, and undermine any gains that may have been achieved through longer-term development interventions.

<sup>1</sup> Emergency Events Database (EM-DAT) - Centre for Research on the Epidemiology of Disasters.

<sup>2</sup> UNISDR, *Impacts of Disasters since the 1992 Rio de Janeiro Earth Summit*, 2012.

<sup>3</sup> Global Network of Civil Society Organisations for Disaster Reduction, *Views from The Frontline: Beyond 2015*, 2013.

<sup>4</sup> Germanwatch, *Global Climate Risk Index 2013*.

<sup>5</sup> IFRC, *World Disasters Report 2009*.

In fact, disasters divert substantial national resources from development to relief, recovery and reconstruction, depriving the poor of the resources needed to escape poverty<sup>6</sup>.

Disasters are having a larger and larger impact as economic development and resulting migration patterns mean that an increasing number of people and assets are located in areas of high risk. For example, the proportion of world population living in flood-prone river basins has increased by 114%, while those living on cyclone-exposed coastlines have grown by 192% over the past 30 years. Over half of the world's large cities, with populations ranging from 2 to 15 million, are currently located in areas highly vulnerable to seismic activity and with a large number of urban populations living in insecure buildings are also susceptible to other hazards such as urban landslides, urban slum fires and localized flooding and water logging.<sup>7</sup>

### Increased exposure of the poorest to natural hazards is increasing



Many disasters are made worse by poor natural resource management and degradation of key ecosystem, such as mangrove swamps which prevent them from playing their function as natural buffers. These combined with weak institutional capacity and governance, inappropriate, non-enforced or missing policies as well as financial constraints compromise low-income and lower-middle income countries' resilience to natural shocks resulting in more severe impact and weaker response.<sup>8</sup>

### Disasters can be mitigated – investing in DRR pays off as DRR interventions are usually less costly than emergency response



Death and damage resulting from disasters can be reduced through a systematic Disaster resilience and Disaster Risk Reduction (DRR) approach. This approach aims to reduce the causal factors of disasters, reduce exposure to hazards, minimize vulnerability of people and property, and improve preparedness for adverse events as well as working together with non-traditional disaster risk management actors to address the underlying causes of disaster risk. Prevention, mitigation and preparedness is less costly than disaster relief and response. DRR interventions have a benefit-cost ratio of 7 and are more effective than disaster relief and response

after the event has occurred, i.e. for every US\$ 1 spent on DRR about US\$ 7 are saved on possible disaster relief expenses.<sup>9</sup> Working in low and medium human development countries with a high probability of being affected by natural hazards, ACTED has a firm commitment towards increasing disaster resilience as an integral aspect of its work throughout the Relief-Rehabilitation-Development contiguum. This document outlines ACTED's approach to disaster risk management and resilience building in this framework.

<sup>6</sup> Worldbank, *The Sendai Report – Managing Disaster Risks for a Resilient Future*, 2012.

<sup>7</sup> UNISDR, *2011 Global Assessment Report on Disaster Risk Reduction: Revealing Risk, Redefining Development*, 2011.

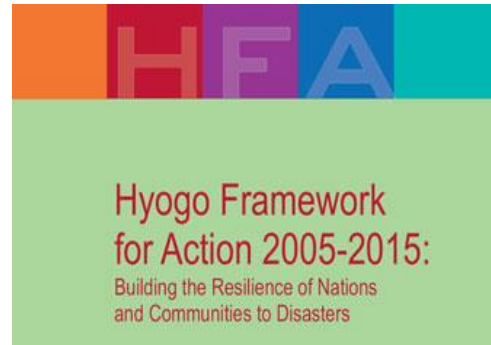
<sup>8</sup> Worldbank, *The Sendai Report – Managing Disaster Risks for a Resilient Future*, 2012.

<sup>9</sup> Dan Sparks, *Aid Investments in Disaster Risk Reduction – Rhetoric to Action*, 2012.



## Disaster Risk Reduction and the Global Context

At the heart of the international community's approach to DRR is the *Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters*. By signing the HFA at the World Conference on Disaster Reduction in 2005 in Kobe, Japan, 168 governments and all leading development and humanitarian actors committed to a 10 year multi-stakeholder and multi-sectoral plan to invest in disaster risk reduction as a means to building disaster-resilient societies. At the June 2012 Rio+20 Conference, world leaders, participants from the private sector and NGOs renewed their commitment to investing in disaster risk reduction. The conference outcome declaration *The Future We Want* noted the need for disaster risk reduction to be integrated into future sustainable development frameworks. The international community is now looking towards the post 2015 agenda where resilience is likely to prove a critical part of the development agenda going forwards.



The United Nations Framework Convention on Climate Change (UNFCCC), ratified by 195 countries, aims to facilitate DRR and risk management as part of enhanced action on adaptation to climate change. Linkages between disaster risk reduction and climate change at the global level have traditionally been relatively weak and it is of critical importance to make the link more explicit at the grassroots levels when considering that for affected populations the impacts of climate change and increased disasters are remarkably similar. The UNFCCC is designed to assist developing countries to adapt to the inevitable adverse effects of climate change, and catalyzes action on climate change, including action on adaptation.

The 2012 Busan Partnership for Effective Development Cooperation, a framework agreement outlining common principles for all development actors that are key to making development cooperation effective, commits its signatories to increase resources for disaster management and prioritize building disaster resilience.

The 4<sup>th</sup> session of the Global Platform on DRR was held in May 2013 and focused on discussions around a new post-2015 framework for DRR (HFA2). The consultations re-affirmed that the existing HFA strategic objectives and priorities should remain in place, however, with more emphasis on local action (involving communities, building capacities of local and sub-national government and the role of the private sector, especially the insurance industry), integrated approaches and creating an enabling environment which facilitates and establishes the conditions and incentives for building disaster resilience.<sup>10</sup>



<sup>10</sup> UNISDR, *Synthesis Report: Consultations on a Post-2015 Framework on Disaster Risk Reduction (HFA2)*, 2013. Picture on this page courtesy of UNISDR.



## ACTED's Position on the Post-2015 Framework for DRR (HFA 2)

- HFA 2 must focus on implementation: It must be a pragmatic, strategic, dynamic and realistic plan for action advancing integrated risk governance, underpinned by a clear set of principles and commitment to addressing the needs of the poorest and most vulnerable.
- HFA 2 must address the underlying causes of people's vulnerability to disasters.
- HFA 2 should be about rights – everyone has an equal right to survive and bounce-back.
- ACTED believes that the HFA 2 needs to focus not just on the mega-disasters but the small and medium scale disasters that do not necessarily make the headlines but which cause the most impact to the poorest people.
- There is need to close the gap between national level disaster risk reduction plans and policies and practical implementation of these at the local level. Disasters happen locally and solutions can often be found locally. Municipalities and local authorities are in a unique position to take the lead but often lack capacity and budget.
- Civil society and the private sector have a critical role to play in reducing risks and their role and responsibilities need to be prioritized within the next HFA. It is time to move beyond rhetoric and create meaningful public-private collaboration in disaster risk management.
- Poor accountability, transparency and governance, needs to be addressed to enable communities to build resilience.





## ACTED Disaster Risk Management and Resilience Strategy

### ACTED's Conceptual Framework to Disaster Risk Management and Resilience

Disaster Risk Management (DRM) is increasingly at the core of ACTED's work. Investing into DRM helps to protect lives and livelihoods and safeguards growth in key socio-economic sectors. ACTED works within the DRM cycle, which includes all activities, programmes and measures which can be taken up before, during and after a disaster with the purpose to avoid it, reduce its impact or recover from its losses., ACTED does not consider a linear continuum approach to DRM and building disaster resilience but rather a **cyclical and continuous contiguum approach**, which forms part of a holistic cycle, with different interventions combining response, recovery, mitigation and preparedness while **Linking Relief, Rehabilitation and Development (LRRD)**. Better development can reduce the need for emergency relief; better relief can contribute to development; and better rehabilitation can ease the transition between the two.



*Fig 1. Disaster Risk Management Contiguum within a LRRD Framework*

Within this overall framework, ACTED considers **resilience as a key concept to disaster risk management**. Resilience refers to the capacity of an individual, household, population group or system to anticipate, absorb, and recover from hazards and/or effects of climate change and other shocks and stresses without compromising - and potentially enhancing - long-term prospects. This concept is not just looking at the impact of disasters but also at what makes communities vulnerable to multiple shocks and stresses. It also examines to what extent communities/societies are able to bounce back after a disaster, therefore addressing their core vulnerabilities and putting more emphasis on the need for recovery from disasters to mitigate future risks. As such, the resilience concept looks at four elements to examine different kinds of resilience and help determine the level of resilience that exists:<sup>11</sup>

1. Context (e.g. social group, region, institution);
2. Disturbance (e.g. natural hazard, conflict, insecurity, food shortage, high fuel prices);
3. Capacity to deal with disturbance, namely exposure, sensitivity and adaptive capacity;
4. Reaction to disturbance (e.g. survive, cope, recover, learn, transform, die).

ACTED's efforts to build resilience aims to contribute to a sustainable reduction in vulnerability through increased adaptive capacity of local populations, governments and other actors; improved ability to identify, address and reduce risk; and improved social and economic conditions of vulnerable populations.

**Disaster risk management and disaster resilience should not be seen as a stand-alone set of activities but as a means of bridging the gap between development and humanitarian programmes (LRRD)** as well as a means of mainstreaming socio-ecosystem thinking within ACTED's overall approach and regular program activities. The reason ACTED talks of building disaster resilience, rather than disaster risk reduction alone, is that a disaster resilience approach as a holistic concept includes both 'traditional' disaster risk reduction concepts such as mitigation, prevention and preparedness, but also encompasses **approaches for resilience-oriented response and recovery interventions in the aftermath of disasters**.

<sup>11</sup> DfID, *Defining Disaster Resilience: A DfID Approach Paper*, 2011.

## Approaches for Effective Disaster Risk Management and Resilience Building

ACTED's disaster risk management and resilience building strategy rests on the following key approaches:

**1. Resilience-based mitigation and prevention:** Integral to helping governments and communities manage risk is the recognition that disasters will still occur and that unpredictability is a crucial element to be considered. While prevention might at times allow for the outright avoidance of a specific disaster, it still leaves open the possibility for other type of disasters to happen. Focus should therefore be on a holistic multi-hazard approach. ACTED's resilience-based mitigation activities aim at the lessening and limitation of the adverse impacts of hazards and related disasters through action taken in advance. Ideally, activities under this approach are already built into the emergency response as well as rehabilitation and recovery phase. This approach forms a key pillar of any DRM program.

**2. Building a culture of risk management and adaptive emergency preparedness:** Despite mitigation measures, communities coping capacities might be overwhelmed following a shock event. Strengthening sub-national governments' and communities' capacity to prepare for disasters, shocks and stresses and implement timely responses is vital. In the immediate aftermath of a disaster, emergency response and relief activities aim to save lives, reduce health impacts, ensure public safety and meet the basic needs of the people affected. In order for governments and communities to able to do this they need to have both the skills and resources needed in order to scale up and react to the crisis. This includes working with government to ensure effective stockpiles for disasters, ensuring that there are Standard Operating Procedures in place and that there are effective disaster coordination structures operating at all levels.

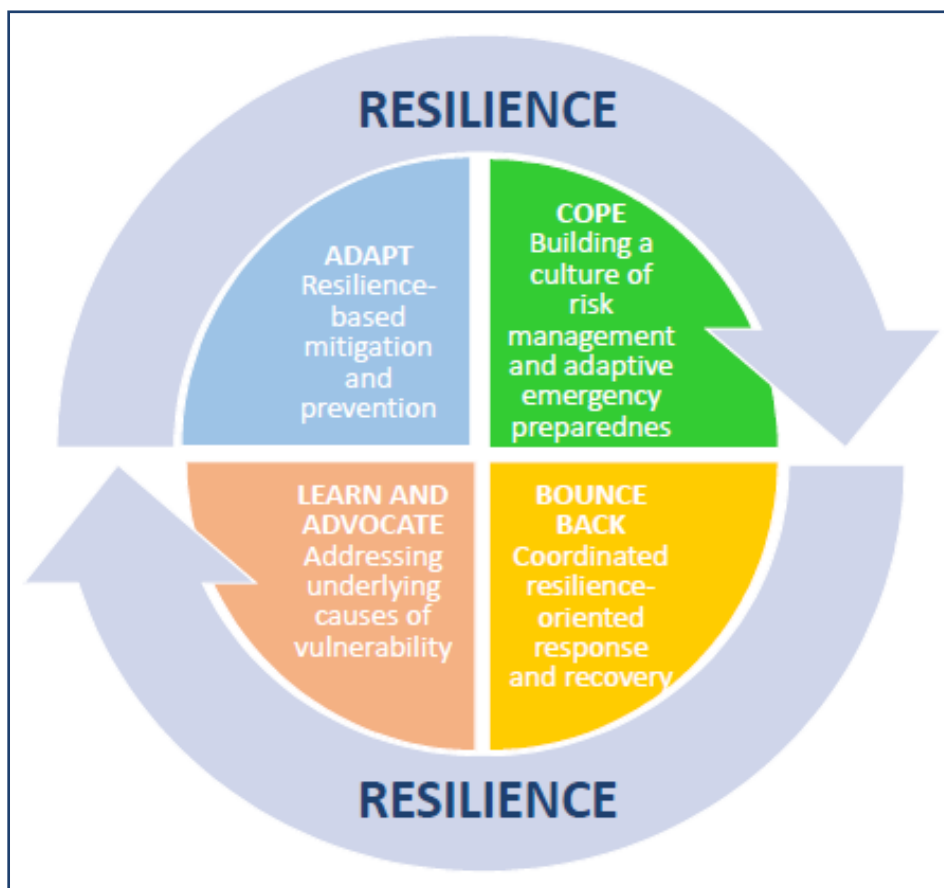
**3. Coordinated resilience-oriented response and recovery:** ACTED recognizes that any effort to increase disaster resilience should be done in a collaborative manner building on the existing capacities of authorities and communities as well as other members of the Humanitarian community, in line with plans laid out in the framework of emergency preparedness. Rehabilitation and Recovery should be based on the Build Back Better approach (BBB) aiming at the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. The idea is to '*Build Back Better, Safer and Fairer*'- seeing this approach also as an opportunity to address root causes of vulnerability and future risk, including ensuring that homes and infrastructure is rebuilt in a way that it will not be impacted by future disasters, this will include considering the construction of homes away from areas of highest risk and ensuring that latrines or other facilities are protected from the impacts from disasters. Improved conditions will allow for medium and longer term development programs.

**4. Addressing underlying causes of vulnerability through mainstreaming disaster risk management and resilience and advocating for large scale replication of successful initiatives:** Through advocacy ACTED intends to favorably influence the social, political, economic and environmental agenda that contribute to address the underlying causes of vulnerability and encourage replication of effective existing models to a larger scale. It is vital to promote the knowledge and capacities developed by governments, communities, professional responders and recovery organizations, communities as well as individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions. This needs to be included in local level planning and to ensure that there is a comprehensive approach to tackling disaster risk at all levels. Mainstreaming disaster resilience is especially important in localized planning as this is where it is important to bring in non-traditional emergency actors, looking beyond disaster management authorities, to include local government, ancillary line ministers and other actors who are involved in addressing the underlying causes of natural disasters.

ACTED adopts a holistic approach aiming at reducing the magnitude of stress induced by external shocks and affecting communities through mainstreaming disaster risk management within its regular activities focusing on the following four main underlying causes of vulnerability:



- **Governance:** Poor governance (e.g. due to lack of capacity of government structures in charge or preparing for and responding to disaster, lack of resources, lack of inclusiveness, corruption or other factors) affects communities' capacity to manage, or maintain certain basic functions, services and structures, during and after disastrous events. It often results in increased impact of disasters and disproportionately affects the poorest and more marginalized sections of the community.
- **Impact of climate change and environmental degradation:** Climate change affects disaster risk in two ways: short-term climate variability and its extremes meteorological events (droughts, floods), and long term shifts in broader meteorological patterns. It is expected that climate change will lead to a global increase in the range, severity and frequency of disasters. This should not overshadow the recurring problem of environmental degradation induced by human activity such as deforestation, inappropriate land use, and unsustainable economic practices that prevent eco-systems from playing their natural role as buffers and protection from natural hazards.
- **Poverty and uneven economic development:** Poor communities and poor people have less physical, social and financial abilities to prepare to and to cope with disastrous events. This makes them both more vulnerable to their negative impacts and less able to recover and bounce back to pre-disaster condition.
- **Exclusion:** Different strata of the population are diversely affected by disasters. Marginalized groups such as women, people with disabilities, indigenous populations, are disproportionately affected in communities where discrimination is prevalent. They may also have different needs that require consideration throughout the disaster risk management cycle. For this reason, it is crucial to ensure that they are included in the decision making process and the development of inclusive disaster risk management plans.



*Fig 2. ACTED's key approaches to building effective disaster resilience*

## Cross-Cutting Issues

In addition to the four key approaches outlined above, and as a result of ACTED's focus on most vulnerable populations, meaning DRM programming usually takes place in multi-hazard locations, ACTED ensures consistent application of a **multi-hazard approach**. Indeed, many communities are vulnerable due to their exposure to multiple hazards which are likely to increase as a result of climate change. A multi-hazard approach is vital towards ensuring a dynamic view of vulnerabilities which takes into account all possible risks faced by communities in a certain geographic zone; for example, coastal populations along the eastern coast of India and coastal Bangladesh are at risk of cyclones, flooding and earthquakes, while rising sea levels will further increase flood risks. The multi-hazard approach identifies and compares risk management strategies and preparedness and mitigation measures for different types of disasters, allowing the identification of synergies or disparities in DRM methods and approaches related to different types of hazards. These may be concurrent or require specific and tailored approaches; however, by taking into consideration each hazard, DRM planning and implementation becomes more robust and meaningful.

Closely linked to a multi-hazard approach is also **conflict sensitivity**. Between 2005 – 2009, more than 50% of people affected by natural disasters lived in fragile and conflict-affected contexts. Many of these insecure contexts are in areas suffering from a self-reinforcing spiral where conflict creates more vulnerability to disaster and more vulnerability to disaster creates further conflict. This is compounded by climate change, environmental degradation, market fragility, economic marginalization, migration and urbanization – some of the drivers which are exposing more people to more hazards. At the same time, they are eroding the resilience of people to these hazards.<sup>12</sup> Until recently, conflict prevention and DRM had limited crossover of expertise or joint working. ACTED realizes that DRM interventions in fragile and/or conflict affected contexts must be handled with great care in order not to undermine peace dividends. Interventions aimed at reducing risks from natural disasters can have positive or negative effects on the dynamics of conflict while at the same time, interventions aimed at preventing conflict can have positive or negative effects on the likelihood and impact of natural disasters. ACTED implements interventions in such a way that they reduce both, the likelihood of disasters and conflict for example by integrating peace building into DRM, multi-hazard threat surveillance and EWS. In this way, DRM programming is 'conflict sensitive' and peace-building becomes 'hazard-proof'.<sup>13</sup>

Lastly, with more and more regional integration, ACTED will take a stronger focus within its disaster risk management and resilience building programming on **cross-border and transboundary cooperation**. In the end, weather, climate and the water cycle know no border! Disaster risk management for communities living in these areas is vital as it addresses similar threats to livelihoods and assets on either side of the border. It is a powerful approach, especially for populations like ethnic minorities without a clear cut territory that is spread over several countries, to avoid situations where states reject responsibilities on each other or have difficulties to collaborate for political reasons in case a disaster strikes. It is also an opportunity to build peace across borders as a disaster affects everyone in the same manner. ACTED's cross-border programs in Uganda and Kenya as well as in Central Asia have successfully shown the usefulness of this approach and ACTED will build its future DRM programs on this experience.

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<sup>12</sup> Katie Harris, David Keen and Tom Mitchell, *When Disasters and Conflicts Collide: Improving links between disaster resilience and conflict prevention*, 2013.

<sup>13</sup> A. Mitchell with E. M. Smith, *Disaster Risk Management for Insecure Contexts*, Action Conte la Faim (ACF), 2011.



## Tools and Methodologies for ACTED's Disaster Risk Management Strategy

**Community Based Disaster Risk Management (CBDRM):** While national and regional planning and coordination is important, communities are the first responders in any disaster and have a vital role to play in preparedness and mitigation. In view of this, CBDRM is a core element towards building resilient communities. Key components of CBDRM often include participatory Hazard, Vulnerability and Capacity Assessments (HVCA), capacity building of village disaster management committees and task force teams, staging mock drills, school safety, participatory DRR planning, creation of linkages with key stakeholders, mainstreaming DRR into local government development plans and small scale mitigation activities. The identification and mainstreaming of indigenous knowledge is also essential to ensuring relevancy and sustainability of CBDRM activities. By building robust community structures and ensuring participatory DRM planning at the village level, CBDRM ensures that communities are better able to prepare for, respond to, and recover from, disasters resulting in resilient communities. CBDRM addresses the need for community participation as envisioned in HFA *Priority for Action 1: Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation.*

CBDRM is a principle element in ACTED's work towards safeguarding lives and livelihoods and reducing impacts of disasters, with a focus on rural and remote regions, often forming the building block of ACTED's DRM programming. As socially and economically excluded groups are more vulnerable to the impacts of disasters, a crucial approach taken by ACTED in CBDRM is one of inclusiveness with a particular focus on women, children, minorities, elderly and people living with disabilities.

### ***Project Snapshot India: CBDRM – when communities lead the way in disaster management***

ACTED has implemented DRR projects in some of India's most vulnerable areas: the flood, cyclone and earthquake prone Sunderbans delta in the Bay of Bengal, and the fast-eroding Majuli island in the Brahmaputra river in Assam.

While national and state policies and structures are in place in India to address disaster management, the links with local authorities and communities are so weak that disaster affected populations are essentially left to their own solutions in times of disaster. In recognition of this, ACTED emphasizes a community based approach to disaster risk management, whereby community structures are established and strengthened and ultimately able to act to prepare for, respond to and recover from disasters.

The key structures in ACTED's CBDRM approach are Village Disaster Management Committees (VDMCs) who are responsible, with the active participation of all sections of the community, for the overall disaster planning, and the Task Force Teams (TFTs), who are specialized groups of able-bodied community members focusing on specific needs, such as search and rescue and first aid.

One of the main challenges in CBDRM is ensuring meaningful and inclusive participation; socially excluded groups, such as women, tribals and Dalits in India, are typically sidelined from decision making. Participatory processes towards discussions and planning are vital for effective CBDRM, and this usually begins with a comprehensive Hazard, Vulnerability and Capacity Assessment (HVCA) involving all sections of a community.

Following the formation of VDMCs and TFTs and facilitating the HVCA, ACTED then works with communities in India to firstly build their capacity in DRM through mock drills, small scale mitigation measures and formalizing local Early Warning Systems (EWS), and secondly to strengthen links with local and district authorities towards promoting the flow of resources down to communities.



*Conducting an HVCA with villagers in Majuli Island*

**Building links between communities and local and sub-national authorities:** Most progress has been made on HFA Priority for Action 1 *Ensure that disaster risk reduction (DRR) is a national and a local priority with a strong institutional basis for implementation*, and while many governments have been successful over the last decade in establishing Disaster Management Agencies at the national and state/provincial levels, it is widely recognized that serious gaps remain in the formation and/or capacity of disaster management structures particularly at the sub-national and local levels, resulting in weak linkages from the community level up to the national level. Enhancing capacity of sub-national and local authorities and strengthening linkages between levels can lead to the following outcomes:

- Resources allocated to local authorities for DRM are better utilized;
- Local authorities are able to provide appropriate responses to individual communities as opposed to blanket approaches;
- DRM planning processes at sub-national and national level are more participatory and inclusive;
- CBDRM elements are more readily replicated by local authorities.

As part of ACTED's approach towards building more resilient communities, building links between communities and local and sub-national authorities is considered a requisite for ensuring the application and replication of best practices, strengthening the sustainability of DRM actions and encouraging a multiplier effect. Cross-border and trans boundary collaboration to tackle certain types of disasters will be particularly emphasized by ACTED in specific contexts (i.e. East Africa, Central Asia, Mekong Region).

**Project Snapshot Central Asia: Building links between communities and local and sub-national authorities**

In Central Asia ACTED's DRM program takes place primarily along two watersheds of the Ferghana Valley; the Isfarinka watershed and the Khodjibakirgan watershed. Both watersheds straddle the boundaries between Tajikistan and Kyrgyzstan. In order to build effective linkages between the two countries to tackle cross-border disaster issues, ACTED set up two cross border working groups at the inter-district level, one for each of the target watershed that they were working on. These cross border working groups brought together the Ministries of Emergency Situations from both sides of the border as well as members of the local water authorities, target districts, local authorities and other interested parties.



*Cross border working group meeting*

Following these meetings a technical sub-group comprising technical authorities from both sides including engineers, and hydro-technical experts was established to ascertain what cross border interventions were required in order to reduce risk. As a result of their feedback and work, a cross-border plan for each watershed was created. This also consisted of a map, created by the GIS department marking the sites of suggested intervention. These plans represent the first concerted efforts by both sides to create a cross border plan for DRM along these watersheds and represents a major achievement on both sides.



*Cross-border simulation drill*

Key to making the plan work was bringing together District level representatives of the Ministries of Emergency Situations in both countries to talk and discuss disaster issues together. The work also enabled municipal authorities at the sub-district level to attend the meetings and raise concerns about disaster risk reduction in their local area. This proved a critical element in reducing risk across the two watersheds. The plan was authorized and signed by authorities on both sides of the border and represents a way forward for DRM planning in the local area that was not in place before.



**Ecosystem-based disaster resilience**, particularly in coastal areas and river basins: Given the prevalence of hydro-meteorological disasters globally, it is anticipated that environmental change impacts, including climate change, will exacerbate disaster risks.<sup>14</sup> Ecosystems play a key role in regulating climate, providing hazard protection and sustaining livelihoods, yet their role in the context of DRR has been largely ignored until recently. Indeed, ecosystem management is often only perceived to have conservation (i.e. maintaining biodiversity) rather than DRR value. However, investing in ecosystems in many cases the most readily available and effective solution to reducing underlying risk factors and providing protection against the vagaries of nature. So far, there is limited progress in taking into account environmental externalities which is also reflected in the uneven progress of the HFA implementation – the least progress was recorded in the HFA’s *Priority for Action 4: Reduce the underlying risk factors* which includes the need to address ecosystem degradation.<sup>15</sup> ACTED believes that ecosystem-based DRR, especially in coastal areas and river basins has the potential to impact all elements of the disaster risk equation – mitigating hazards, reducing exposure, reducing vulnerabilities and increasing the resilience of exposed communities. Well managed ecosystems can:

- Serve as natural infrastructure to prevent hazards or buffer hazard impacts;
- Reduce the exposure of people and their productive assets to hazards;
- Sustain livelihoods and provide for basic needs (water, food, shelter, etc.).

Therefore, ACTED includes sustainable ecosystem and natural resource management as a key element in its DRR programs.

***Project Snapshot Myanmar: Protecting the environment to protect coastal communities' lives***

In Gwa Township, Rakhine State, Myanmar, coastal mangrove forests have been alarmingly degrading as a result of population pressure and illegal and/or unsustainable practices. In some cases, mangrove forest lands have been converted into paddy fields or used for shrimp farming or salt drying areas. Mangrove forests have also become the main source of firewood for local communities. The plants' root systems have proven to dissipate wave energy, thus acting as a buffer by mitigating the impact of tropical storms and tidal surges. In the end, the combination of increased population in coastal areas and the degradation of coastline ecosystems has exacerbated the vulnerabilities of coastal communities to full scale natural disasters and greater damages. An assessment conducted by ACTED in the context of a project that aims at reinforcing community resilience to coastal hazards highlighted the fact that insufficient knowledge of ecosystem management and the benefits of a healthy ecosystem resulted in a lack of integration of natural resource management into disaster risk reduction and mitigation. Through the rehabilitation of coastal environments the intervention strives to simultaneously reduce the impact of disaster events and climate change, while fostering sustainable livelihood opportunities for coastal communities.



*Remaining mangroves in Gwa Township are under severe pressure*

Accordingly, a thorough evaluation of the condition of mangrove forests in Gwa Township and the impact of degradation in terms of increased disaster vulnerability is currently conducted, using data from local and international NGOs working on the field, as well as satellite images. Based on the findings of the evaluation, the project will devise a set of mangrove rehabilitation activities, ranging from natural regeneration through mangroves

regeneration improvement felling, to artificial regeneration, including mangrove plantation, community-based forest management and/or trainings on mangrove-based livelihood activities. Target villages in Gwa Township will also be given the opportunity to develop micro initiatives aiming to protect or restore environmental zones coinciding with areas of vulnerability. Alternatively, micro initiatives can focus on eco-engineering techniques to mitigate the impact of disaster events on livelihoods and assets under a ‘Build back better’ approach.

<sup>14</sup>IPCC, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, 2012;

<sup>15</sup>Fabrice G. Renaud, Karen Sudmeier-Rieux and Marisol Estrella: *The Role of Ecosystems in Disaster Risk Reduction*, 2013

**Climate Change Adaptation (CCA):** Climate change and disaster risk reduction are closely interlinked. There is growing evidence that climate change is increasing the frequency and intensity of extreme weather events, and hence the level and patterns of often inter-related risks, exacerbating levels of vulnerability for poor and excluded people. Developing countries are often highly vulnerable to climate change because of their geographic exposure, low incomes and greater reliance on climate sensitive sectors, particularly agriculture.<sup>16</sup> People exposed to the most severe climate-related hazards are often those least able to cope with the associated impacts, due to their limited adaptive capacity, for example communities on living on vulnerable banks of rivers or by precarious coasts that are more susceptible to their communities being washed away by increased flash flooding or sea level rise or increasing tidal surges.

Therefore, ACTED is committed to integrating climate change adaptation, i.e. adapting development to respond to the adverse impacts of gradual changes in average temperature, sea-level and precipitation; and, reducing and managing the risks associated with more frequent, severe and unpredictable extreme weather events, into its DRM programmes in contexts where climate change and disasters are a significant driver of poverty and suffering. To reduce disaster and climate change risk, exposure needs to be minimized, vulnerability reduced, and capacities for resilience strengthened in ways that address both disaster and climate change risk simultaneously. It is a dynamic process requiring efforts across economic, social, cultural, environmental, institutional and political levels to move from vulnerability to resilience.<sup>17</sup> Activities may include facilitation of resources for alternate or adapted livelihoods such as promotion of crop diversification, promotion of agro-forestry and/or conservation agriculture practices, identification of alternative, sustainable water sources for human consumption and livelihood use or solutions as simple as (re-)location of critical infrastructure and housing away from flood-prone areas and designation of ‘safe places’ for shelter and storage during storms.

**Project Snapshot Kenya: Pastoralist Field Schools (PFS) – Champions of Climate Change Adaptation**

The livelihoods of the predominantly pastoralist and agro-pastoralist population living in an already harsh, arid environment in Northern Kenya are threatened by the effects of climate change which has resulted in more frequent, more severe droughts, seriously eroding the productive assets and traditional coping capacities of these populations. Together with the Food and Agriculture Organization of the United Nations (FAO), ACTED has been at the forefront of developing the Pastoralist Field School (PFS) approach as a means to strengthen livestock keepers’ resilience to climate change. A PFS can be described as a ‘school without walls’, where groups of pastoralists learn through observation and experimentation in their own context, based on methods of adult education. PFS help pastoralists to analyze their livelihood systems, identify their main constraints and challenges, and test possible solutions, thereby improving their analytical, management and problem solving skills. ACTED facilitates training for the PFS groups on topics such as improved animal-husbandry, livestock cross-breeding, natural resource management and alternative livelihoods and provides targeted grants for the PFS members to conduct experiments and enhance their learning. While PFS is a long-term activity, its impacts in building drought resilience through climate change adaptation are becoming increasingly evident in the communities where ACTED works. Many PFS participants are engaging in new and improved pasture, water and animal health management practices including cross-breeding, which have resulted in higher milk and meat production, thereby increasing participants’ incomes and decreasing their vulnerability to drought. Others have begun engaging in new livelihood activities such as beekeeping and poultry-keeping, also supplementing their incomes and enhancing their resilience to future shocks.



*PSF Graduation Ceremony*

<sup>16</sup> UNISDR, *Briefing Note 03 Strengthening Climate Change Adaptation through Effective Disaster Risk Reduction*, 2010.

<sup>17</sup> Marilise Turnbull, Charlotte L. Sterrett, Amy Hilleboe, *Toward Resilience: A Guide to Disaster Risk Reduction and Climate Change Adaptation*, 2013



**Early Warning Systems (EWS):** EWS are the basis of a prepared and resilient condition. It can be defined as a system which provides early information on potential and imminent disasters, so that timely, effective and adapted response measures can be taken by all concerned stakeholders. It involves hazard and vulnerability monitoring and should consider the potential exposure of the various groups in the vulnerable population. The objective of an EWS is to empower communities threatened by a hazard and decision makers at higher levels, with the required information for them to act in sufficient time and appropriately reduce the impact of the disaster. EWS are often hazard’s specific (especially when both slow and rapid onset disasters are potential threats) but a multi-hazard approach is recommended. Different levels of EWS can be put in place:

- Community-based EWS, based on traditional indicators based on indigenous knowledge, often valid on a very limited geographical scale;
- Community-linked linked EWS, based on both vulnerability indicators (collected from the communities) and scientific indicators, with simple and micro level of data analysis;
- National/regional EWS, often based on secondary sources of data, with more complex and macro-level of data analysis.

ACTED believes that in order to reach a satisfactory state of preparedness, vulnerable communities often need a combination of different level EWS. An efficient coordination system between them is paramount so as to meet the expected impact. ACTED’s efforts in EWS project follows the priority for action number 2 of HFA *Identify, assess and monitor disaster risks and enhance early warning* and include a strong focus on how the messages given to the variety of stakeholders are able to trigger, in parallel, both community and government/development partners response mechanisms. Inclusiveness is key element of ACTED’s work on EWS, in recognition that socially and economically excluded groups, such as pastoralists – and hence often the most vulnerable – are often also excluded from participating in the design of EWS as well as from the channels of communication on which EWS are based.

#### **Project Snapshot Uganda: Drought Early Warning System (DEWS)**

The Karamoja region in northeast Uganda is the most marginalized in the country and one of the least developed in the world. Home to largely cattle-herding pastoralists, Karamoja has been trapped in a cycle of conflict and neglect for generations. Combined with several years of consecutive drought, this situation has drastically reduced the population’s capacity to cope with an already harsh arid environment. Since 2009, ACTED has implemented a cross-border drought preparedness project in the region which features a Drought Early Warning System (DEWS).



The DEWS consists of collecting data on 26 indicators across four sectors (livelihoods, livestock, water and crops) to produce monthly Drought Bulletins that provide key information on the current likely condition of the four sectors. The data is collected by local authorities on a monthly basis, and send through mobile phone to the District DEWS focal person, who utilizes tailor-made software to compile the data into a Drought Bulletin which analyses the information and predicts the situation in each district in Karamoja as “normal”, “alert”, “alarm” or “emergency”. The information from the Drought Bulletins as well as recommendations on when to plant certain crops or when to vaccinate animals are then given to communities all over Karamoja, utilizing varies means such as radio or drama shows.

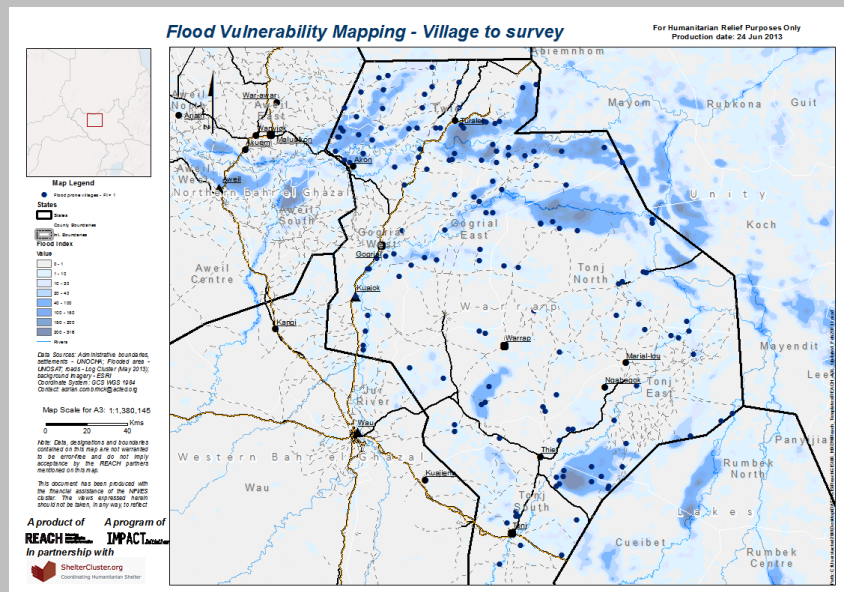
The DEWS has been designed in full collaboration with the Ugandan government, UN agencies and other development partners. It is fully implemented under the existing structure of the local and national government, where the role of ACTED has been only to provide technical and financial support to the government in running it and improving its efficiency. ACTED, together with the Ministry for Agriculture, Animal Industries and Fisheries (MAAIF), is currently creating a handover strategy to ensure that the government fully owns and runs the DEWS in the future.

**Application of innovation and new technologies:** A wide range of innovations specific to DRM have been tested by DRM actors through pilot projects, whilst at the same time technologies relevant or adaptable to DRM are being continuously developed by the private sector. Of key and growing importance to resilience approaches is mapping and GIS technology. Through its REACH initiative ACTED has developed comprehensive GIS-based mapping and information management capacity to support DRM planning, decision making, information sharing and allocation of resources. REACH is an innovative tool that combines the usefulness of modern information technology, such as web and GIS-based mapping, with rapid and well-developed assessment methodologies. REACH was born in 2010 as a joint initiative of two INGOs (IMPACT Initiatives and ACTED) and the United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT). REACH's overall objective is to enhance the effectiveness of planning and coordination by aid actors in countries that are in crisis or at-risk of crisis.

It is through the use of such technologies that ACTED, its beneficiaries and stakeholders can better understand and share the social and physical complexities of disasters leading to more appropriate planning and responses to hazards. As part of a resilience approach, mapping can be deployed to aid local level planning, increase community awareness of the hazards they face and ensure more targeted interventions that reduce the risk of disasters. This can be done for example through the development of accurate topographical risk maps using satellite imagery. GIS technology can be used to rapidly collect primary and secondary data and process into maps and reports to facilitate inter-agency coordination and decision making on complex issues. Maps can include areas that local communities do not physically inhabit, such as mangrove forests, but that are integral to understand the risk exposure and protection for communities. The technology can also be used to highlight where disasters had previously occurred as well as safe evacuation routes and points. It is also an essential tool to allow for building back better and ensuring targeted and sustainable recovery based on knowledge of damage, likely risk points and the location and origins of hazards.

**Project Snapshot REACH: Hazard Vulnerability Mapping in South Sudan**

Warrap State in South Sudan is one of the most flood prone areas of the country. Almost every year during the rainy season, villages and agricultural and grazing lands are flooded. Lack of accessibility creates severe challenges for an efficient humanitarian response in the event of flooding, including restrictions in the ability to identify gaps in the emergency flood response; to determine vulnerability of the communities affected; and the needs of communities. In order to address these challenges, the Shelter and Non Food Items (NFI) Cluster of South Sudan, in partnership with REACH, conducted a flood



vulnerability mapping exercise in Warrap State. Based on satellite imagery provided by UNOSAT, villages in the most flood prone areas have been identified and the information has been used to inform the drafting of a shelter and NFI contingency plan for the Shelter/NFI cluster in addition to providing invaluable information for the design of activities that can improve resilience and preparedness of communities. The flood vulnerability mapping in Warrap aims to strengthen the coordination between NGOs during flood emergency responses and to provide information to NGOs and the South Sudanese government and lead to the formation of a sound disaster risk reduction strategy in Warrap State.

**Multi stakeholder processes with specific focus on civil society and private sector linkages:** Disasters affect all stakeholders across communities including local authorities, the private sector, academics and civil society amongst others. As such ACTED includes a multi-stakeholder approach in disaster risk management in order to maximize existing human, social, technical and financial capacities. Civil Society Organizations (CSOs) are particularly important in building community disaster resilience and supporting local-level implementation. Combining experience, expertise and long-standing community relationships, local civil society is essential in assisting disaster risk management programming to address local contexts and support capacity building for community resilience. Unfortunately little progress has been made on involving civil society in national policy and legal framework formulation. For this reason, ACTED focusses on strengthening the capacity of civil society organizations to engage in disaster risk reduction programming. In addition, while acknowledging the capacity of civil society for aggregation at higher levels, ACTED supports these organizations to lobby and engage in policy dialogue between the national and grassroots level and liaise with relevant national, regional and international platforms.

Emphasis is also placed by ACTED on the private sector which had economic losses of approximately US\$138 billion in 2012 alone from disasters.<sup>18</sup> Assets and staff are lost and supply and distribution chains disrupted resulting in the loss of profits and, and in extreme cases, the closure of businesses. At the same time, the private sector has the capacity to introduce and encourage the adoption of new technologies in communities and provide technical expertise, new technologies and resources to reach wider audiences in disaster risk management interventions. Examples include the use of mobile phone technology as an integral part of end to end early warning systems, the adoption of conservation agriculture techniques and take up of insurance schemes by small businesses. Whilst many DRR actors have acknowledged the important role of the private sector in this sphere, its full power has yet to be harnessed. In order to encourage the integration of private sector partnerships, ACTED actively seeks to develop partnerships, both formal and informal, as part of its DRR programming.

**Project Snapshot South-East Asia: Micro-insurance to mitigate economic loss**

As part of its South and South-East Asia regional DRR strategy, ACTED is preparing an intervention to pilot micro-insurance schemes as a means to disaster risk reduction and resilience building. ACTED believes that micro-insurance is a crucial, but under invested and overlooked component in various social protection measures. ACTED's experience from around the world as well as from its microfinance network Oxus shows how access to adequate insurance as part of larger financial inclusion programs can be instrumental in building-up the financial capital and productive asset base of poor and vulnerable families. Micro-insurance helps to set-up an effective and transparent mechanism before a disaster hits and offers quick and sufficient liquidity at the time of a disaster. As part of its pilot intervention in Lao PDR, Myanmar and Cambodia, ACTED will carry out a scoping study to better understand the micro-insurance needs of the poor and vulnerable and analyze this in light of the micro-insurance products available in the market. ACTED engages then with the private sector to facilitate effective public-private partnerships and supports setting-up the pre-requisites for micro-insurance schemes such as mandatory participation, effective and efficient payment and delivery channels and the support of international re-insurers.



<sup>18</sup> UNISDR, Press Release: *Economic losses from disasters set new record in 2012*, 14 March 2013.



## Way Forward

The increasing frequency of disasters, coupled with a number of emerging threats and trends such as climate change, demographic growth and unplanned urbanization, are leaving more people vulnerable to the effects of disasters and inflicting greater damage, loss, and displacement on people worldwide. With increasingly constrained resources and a growing vulnerable population around the world, holistic and cost-effective disaster risk management approaches are becoming more and more important for building resilient societies. This strategy should support ACTED in a comprehensive, integrated and sustainable approach to building the resilience of vulnerable people and the communities in which they reside. As highlighted by this strategy, integrating disaster reduction approaches into humanitarian response, recovery, rehabilitation and development will be crucial to meet the massive global needs for disaster risk management and resilience building efforts.

Given the limited availability of resources and the large number of people affected by disasters and needs, ACTED aims to work on approaches that can be easily replicated by state actors that have the mandate to roll out and scale up DRM and build resilience. Often, large resources exist with government bodies, civil society and the private sector for DRM and resilience at all levels; ACTED's role in all of the approaches and tools detailed in this document is to advocate for the replication and scale up of best practices and successful DRM and resilience systems, processes and methods through the leveraging of these resources. Efforts towards this include:

- Capacity building and working with local and sub-national authorities as well as civil society;
- Advocacy at national and sub-national level;
- Multi-stakeholder approach, networking and participation in national, regional and international events such as the Global Platform of Disaster Risk Reduction;
- Advancing mapping and GIS technologies throughout the LRRD and disaster risk management cycles to enhance resilience to natural disasters;
- Collaboration with the private sector.

Improved engagement of civil society and community actors in building resilience on local levels to ensure a bottom up process to mainstreaming risk reduction priorities will be a key program focus, in line with ACTED's position on the post-2015 framework for DRR.

Also, ACTED aims to strengthen coordination and experience sharing with actors that have a key role in disaster risk management, such as the Global Facility for Disaster Risk Reduction and Recovery (GFDRR), United Nations International Strategy for Disaster Risk Reduction (UNISDR), United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA), INGOs and local civil society actors thus we can all speak in one voice and learn from each other.





Responding to  
**EMERGENCIES**  
worldwide



Supporting  
**RECOVERY**  
& **REHABILITATION**



Towards  
sustainable  
**DEVELOPMENT**

