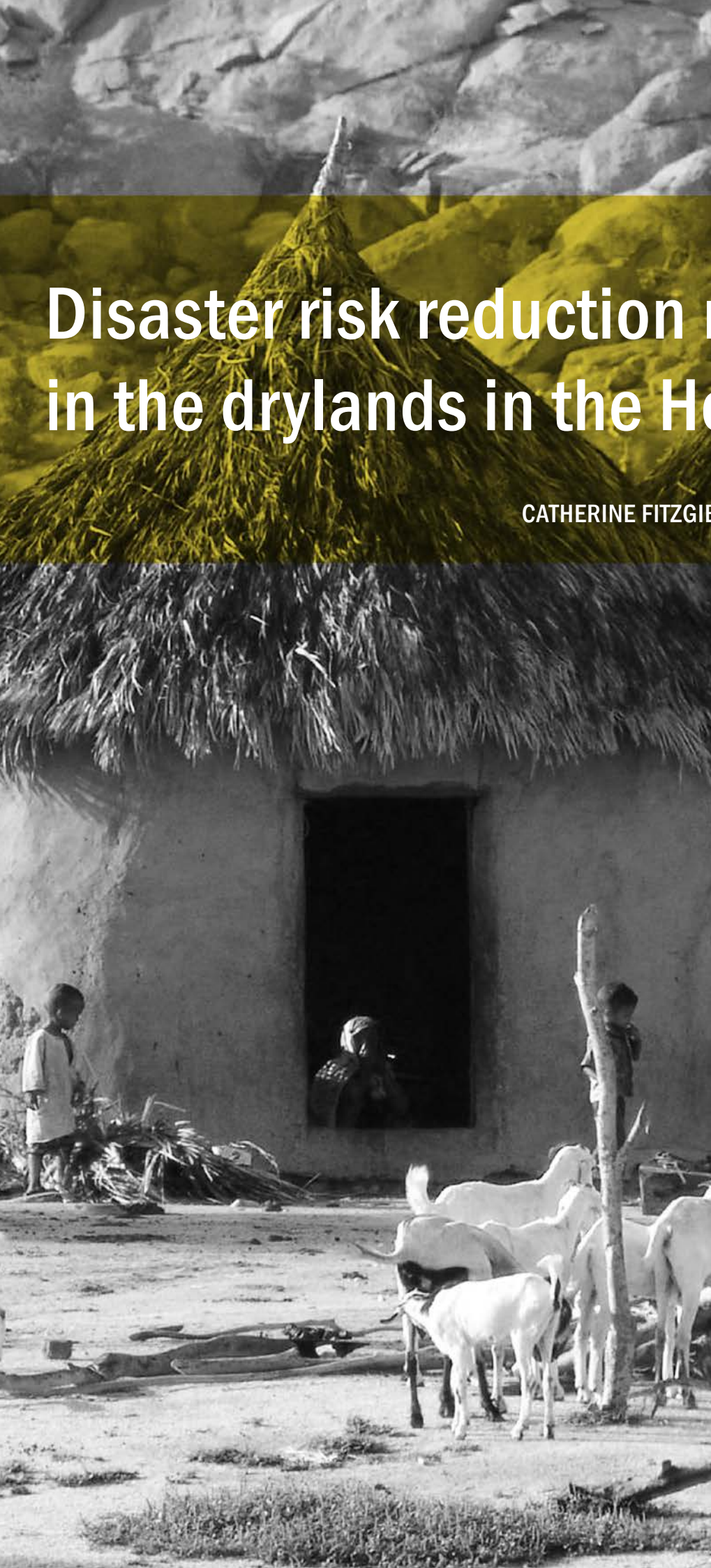


Disaster risk reduction management in the drylands in the Horn of Africa

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BRIEF 4

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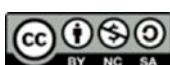
Technical brief prepared by the Technical Consortium for Building Resilience in the Horn of Africa, a project of the Consultative Group on International Agricultural Research (CGIAR) hosted at the International Livestock Research Institute (ILRI).

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Abbreviations

ALRMP	Arid Lands Resource Management Project
CBD	Convention on Biological Diversity
DfID	Department for International Development [UK]
DRR	disaster risk reduction
EW	early warning
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning System Network
IGAD	Intergovernmental Authority on Development
KFSSG	Kenya Food Security Steering Group
LAPSSET	Lamu Port and Lamu Southern Sudan–Ethiopia Transport Corridor
NDMA	National Drought Management Authority [Kenya]
NGO	non-governmental organization
NRM	natural resource management
ODA	Overseas Development Assistance
PSNP	Productive Safety Net Programme
UNCCD	UN Convention to Combat Desertification
UNFCCC	UN Framework Convention on Climate Change
UNOCHA	UN Office for the Coordination of Humanitarian Affairs
USAID	United States Agency for International Development
VSF	Veterinaires Sans Frontieres
WFP	World Food Programme

Terms

Term	Countries
East Africa	historically, Kenya, Tanzania, Uganda
Greater Horn of Africa	Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania, Uganda
Horn of Africa	Djibouti, Eritrea, Ethiopia and Somalia
IGAD	Djibouti, Eritrea (suspended), Ethiopia, Kenya, Somalia, South Sudan, Sudan, Uganda

Executive summary

Countries in the Horn of Africa contain some of the most disaster-prone areas in the world. Drought in particular affects more people more frequently than any other disaster. The economic, social and environmental impacts on the affected populations are extreme. The national costs and losses incurred are also threatening to undermine the wider economic growth and other development gains being made in many Horn of Africa states.

Drought is a slow onset disaster but drought is also a chronic and regular feature of the lowland areas of the Horn of Africa. Its presence has not always precipitated a 'disaster', but the reason disaster can occur is due to a combination of factors, which means the affected populations are highly vulnerable and have limited capacity to cope.

Disaster risk reduction (DRR) encompasses all actions taken to reduce the impact of disaster losses by addressing not only the hazards that cause disasters but also people's vulnerability and capacity to cope. This is summarized in the following formula:

$$\text{Disaster risk (R)} = \frac{\text{Hazard (H)} \times \text{Vulnerability (V)}}{\text{Capacity (C)}}$$

Disaster risk reduction interventions should not only focus on addressing the hazard (H) but should also encompass actions that build capacity (C) and reduce vulnerability (V) to disaster risk in both the long and the short term. Although there are distinct DRR interventions and activities, DRR is also about systematically incorporating risk reduction considerations in all development and humanitarian policies and programming. Mainstreaming DRR is essential if the frequency and the impact of disasters are to be reduced and the vicious spiral of poverty and vulnerability they precipitate and reinforce is reversed.

Now that climate change and variability emerge as real challenges for dryland populations in the Horn of Africa there is much commonality between DRR and climate change adaptation. Both promote increased investment in capacity building and resilience to reduce or mitigate future climate-related risks. The primary difference is the timeframe.

Despite widespread appreciation of the value of the DRR approach, in theory it is all too rarely translated into practice. Key reasons for this:

- The current artificial split between humanitarian and development funding mechanisms undermines support for holistic approaches that incorporate multi-sectoral, long- and short-term interventions.
- The capacity is weak within all sectors to develop strategic local plans of quality that effectively incorporate such issues as reducing disaster risk, reducing poverty and building resilience. Policymakers and practitioners are often stuck in sectoral silos that undermine holistic thinking.
- Emergency response and funding is heavily biased in favour of food aid. Consequently, despite the rhetoric, disaster preparedness usually accounts for less than 1% of humanitarian aid.
- Communities are often excluded from planning, implementing and monitoring efforts to reduce disaster risk or build resilience. With appropriate resources and support, communities can better identify appropriate interventions and ensure interventions are timely and sustainable.
- Effective coordination and joint working among the many ministries, donors and local actors that need to be involved are often lacking.

- Early warning and other information systems are a key component of a DRR approach. Unfortunately, even well-designed and resourced early warning systems do not translate into effective drought preparedness

and early response.

DRR interventions that represent good practice are identified in this brief, illustrating how DRR can be applied to policy and programming in practice.

Background and introduction

The drylands of the Horn of Africa are home to over 20 million people, the majority for whom livelihood relies on pastoral livestock production and related activities. Pastoralism has proved to be the most economically productive and environmentally sustainable use of such marginal landscapes. As economies and populations in the Horn of Africa grow they have the potential to play a key role as important sources of meat, hides, dairy and several other products and services. Yet in recent years the drylands of the Horn of Africa have become some of the most disaster prone in the world. Although the Horn is exposed to multiple and complex shocks with underlying chronic poverty, drought in particular affects more people more frequently than any other disaster. The economic, social and environmental impacts upon dryland inhabitants are extreme. The national costs and losses incurred also threaten to undermine the wider economic growth and other development gains being made in many Horn of Africa states.

With climate change and increased climatic variability, drought will remain a constant hazard. In this context it is clear that unless disaster risk is reduced and the resilience of communities built, crises in the drylands of the Horn of Africa will continue and increase in scale as populations grow. Given the inevitable and chronic nature of drought in the region, it is widely accepted that it is necessary to integrate disaster risk reduction (DRR) into all aspects of development and humanitarian policy and programming. Unfortunately, as the 2011 drought crisis in the region demonstrated, DRR efforts to date are clearly inadequate. The Intergovernmental Authority on Development's (IGAD's) Ending Drought Emergencies initiative provides governments in the Horn of Africa with a fresh impetus to re-examine and revise policy and programming from a DRR perspective. Under this initiative, IGAD created the Drought Resilience Platform with the key objective to mobilize resources,

encourage knowledge management, and formulate common regional goals and strategies.

What is disaster risk reduction?

The UN's International Strategy for Disaster Reduction (UNISDR) defines disaster risk reduction 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

(UNISDR 2007).

In practical terms DRR encompasses all actions taken to reduce disaster losses by addressing not only the hazards that cause disasters but also people's vulnerability to them. Disaster risk reduction interventions need to build capacity to withstand hazards both before and after they occur. Although there are distinct DRR interventions and activities, DRR is also about systematically incorporating risk reduction considerations into all development and humanitarian policy and programming. Mainstreaming DRR is essential if the frequency and impact of disasters is to be reduced and the vicious spiral of poverty and vulnerability they precipitate and reinforce reversed.

Box 1 sets out some of the key terminology associated with DRR and the disaster risk formula. In applying this formula to the Horn of Africa it is important to understand why drought has such a disastrous impact on such large swathes of dryland populations. When a *hazard* such as drought strikes

Box 1. Risk, hazards, vulnerability and capacity—key concepts

Risk, hazards, vulnerability and capacity are key terms with distinct meanings:

- **RISK** is the probability of harmful consequences or expected losses (death, injury, loss of property and livelihoods, disruption of economic activities or damage to the environment) resulting from interactions between natural or human-induced hazards and vulnerable conditions.
- **HAZARDS** are potentially damaging physical events, phenomena or human activities that may cause the loss of life or injury, damage to property, disruption of social and economic activities, or environmental degradation. Hazards can be natural, such as drought; caused by humans, such as conflict; or a combination of both, such as livestock disease.
- **VULNERABILITY** describes a community's inability to cope with, withstand and recover from hazards. If people can be made less vulnerable or even non-vulnerable to disaster risk, then a hazard may still occur but need not produce a disaster. The major determinants that make people vulnerable are the social, economic, political, environmental and ecological factors that determine the level of resilience of people's livelihoods. Vulnerability is always to a specific hazard.
- **CAPACITY** describes all the strengths and resources available within a community, society or organization that can reduce the level of risk or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management.

The risk management formula illustrates their interaction:

$$\text{Disaster risk } (R) = \frac{\text{Hazard } (H) \times \text{Vulnerability } (V)}{\text{Capacity } (C)}$$

The formula illustrates that the greater the magnitude of a hazard and the lesser the capacity to cope with it, the greater the risk. It makes clear that risk can be reduced by reducing either the effects of a hazard or the vulnerabilities of communities to that hazard, such as building resilience.

Adapted from UN International Strategy for Disaster Reduction www.unisdr.org/eng/library/terminology

it is usually the poor who face the highest risk as they are the most *vulnerable*, having fewer resources and less *capacity* to cope with the disaster. The root causes of vulnerability and poverty are multiple (outlined below); however, drought itself can further increase disaster risk as it undermines capacity to cope with situations and depletes assets. As a result populations are even more vulnerable to future droughts and any other hazards.

Building on years of research on the causes and prevention of disasters, the international community has agreed on a framework to guide the application and implementation of policies and strategies to minimize vulnerabilities and disaster risks. The Hyogo Framework for Action (2005–2015), which emerged out of the 2005 World Conference on Disaster Reduction, is the first internationally agreed initiative that sets out a structured set of objectives, strategies and outcomes for agencies to follow as they implement risk reduction interventions. The concept of Disaster

Risk Reduction endorsed by the Hyogo Framework is an approach that enables governments and their partners to target appropriate investments and resources to implement a comprehensive inter-sectoral approach to reduce the impact of disasters on their communities. As a global framework it encompasses the broad spectrum of disasters with a strong focus on quick onset disasters such as earthquakes, monsoons and hurricanes.

The Hyogo Framework has been taken forward by the African Union in its Africa Regional Strategy for Disaster Risk Reduction and associated program of action. The overall goal of the program is to reduce the social, economic and environmental effects of disasters on African people and economies, thereby facilitating achievement of the Millennium Development Goals and other development aims. Specific objectives include increasing the understanding of DRR and the capacity to mainstream and manage it as an integral part of sustainable development.

DRR approaches in the Horn of Africa

Drought is by far the most common disaster in the Horn of Africa and the justification for almost all recent large-scale humanitarian appeals and responses. Table 1 shows the numbers in need and humanitarian funding received for Kenya and Ethiopia.

Both Somalia and South Sudan have experienced a similar frequency and level of humanitarian need. The frequency and scale of drought disasters in the Horn of Africa has put the humanitarian system and donor resources under considerable pressure in the last decade. The impact of and recovery from disasters also takes its toll on the development priorities of governments and communities alike. As a result focus and use of the terms DRR and resilience building has increased, with an emphasis on embedding DRR and resilience in all humanitarian and development programming.

Managing risk in drought-related disasters

Globally DRR is most often associated with fast-onset disasters such as earthquakes and hurricanes. Too often DRR is linked to humanitarian

response and viewed as an extended form of emergency preparedness. Although emergency preparedness is an important element of DRR, the approach should be much more cross-cutting and is as relevant, if not more so, outside of 'crisis' periods than during them.

In the Horn of Africa, DRR is primarily associated with drought. Drought is a slow onset disaster, but drought is also a chronic and regular feature of the lowland areas of the Horn, the presence of which has not always precipitated a 'disaster'. The reason droughts now often precipitate disaster is due to a combination of factors that mean the affected populations are highly vulnerable and have limited capacity to cope with hazardous situations.

The underlying vulnerability and poverty of so much of the population in the drought-prone areas of the Horn of Africa cannot be underestimated as key factors increasing disaster risk. Almost universally the pastoral communities of the Horn of Africa experience the highest poverty levels, acute malnutrition rates and lowest social development indicators. Destitution is widespread, with large swathes of the population unable to make ends meet in good as well as bad years without external assistance in the form of food or cash. Decades

Table 1. Historical comparison of drought events (Kenya and Ethiopia)

KENYA			ETHIOPIA		
Year of major drought events	GOK ^a and international humanitarian aid received (USD m)	People affected ^b (no. in m)	Year of major drought events	International humanitarian aid received ^c (USD m)	People affected ^d (no. in m)
2011	427.4	3.75	2011	823	4.5
2009	432.5	3.79	2008	1078	6.4
2006	197.0	2.97	2005	545	2.6
2003/2004	219.1	2.23	2003	496	12.6
1998–2001	287.5	3.20	no data	no data	no data

^a Government of Kenya data

^b Based on maximum numbers assessed for food aid assistance by government-led Kenya Food Security Steering Group (KFSSG). Data from Ministry of Northern Kenya and Other Arid Lands

^c Financial Tracking Services of UNOCHA (UN Office for the Coordination of Humanitarian Affairs)

^d Based on the CRED (Centre for Research on the Epidemiology of Disasters) database (<http://www.emdat.be>)

of political and economic marginalization have meant access to basic services such as health and education and infrastructure such as roads and electricity are way behind other parts of the same country. Consequently drought-prone communities have few resources and a low asset base upon which to rely when drought (or any other hazard) hits. Each successive drought further depletes assets, leaving households ever more vulnerable and less able to cope with circumstances—see Box 2.

As a result, now millions in the Horn of Africa are dependent on food or cash handouts in both drought and non-drought years. From a livelihoods perspective, effective DRR programming should expand all categories of household and community assets:¹

- financial/economic—income, cash savings, credit, insurance, etc.
- environmental/natural—quality and quantity of natural resources, especially water, pasture
- physical/technological—access to infrastructure, markets, tools, equipment, communications
- human/social—levels of health, education, skills, social support networks and systems
- political—voice, representation and participation in organizations, holding duty bearers to account

As communities' asset base is expanded their capacity to cope with shocks and crises increases and their vulnerability is reduced. These are critical factors in reducing the disaster risk in the DRR formula shown in Box 1. For example, pastoral households with better access to sustainable water and pasture resources can maintain herd condition longer. Increasing education levels expands livelihood and job opportunities as do improved roads, electrification, etc. These in turn enable households to diversify and expand income sources. Consequently DRR can encompass a great many interventions and must inevitably straddle both development and humanitarian programming.

Box 2.

Pamela Ataa is sitting among a group of women in Kaeris, Turkana, northern Kenya. 'I used to have 30 goats and sheep. During this drought the main problem was the lack of water. It took 20 animals. These days the rainy seasons are dodging the pastoralists. After the drought a disease has come in. It has killed the rest of my livestock.' She has a stack of goatskins in front of her.

(Reidy 2010)

Indeed, it is most relevant outside of drought episodes as that is when populations are better placed to engage in capacity- and resilience-building activities. The challenge is accessing the levels of funding required to tackle long-term under-development in these areas. In the meantime governments and donors are struggling to meet the immediate humanitarian needs of ever-increasing vulnerable and destitute populations.

Current funding mechanisms

Despite the clear economic and other evidence to support early humanitarian response and resilience interventions, current donor funding mechanisms maintain a rigid split between humanitarian and development funding streams. For example, both the US and the European Commission have designated humanitarian agencies: the US Office for Disaster Assistance and ECHO, the European Commission Humanitarian Office, both of which have clearly defined humanitarian mandates. Humanitarian funding is generally restricted to a very short timeframe of 12–18 months maximum, which cannot support ongoing or long-term emergency preparedness or DRR programming. The problem is exacerbated by the annual humanitarian appeal process, normally led by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA), which categorizes needs according to sectoral shopping lists. This approach undermines repeated recommendations² to shift funding systems towards predictable longer-term, multi-year funding.

¹ Drawn from the DFID Sustainable Livelihoods Framework and DFID (2011).

² HERR report (2011), other examples.

Another factor affecting humanitarian funding streams is that it is often only made available once the impact of a disaster is evident. The 2010/2011 drought was the latest example, when the vast majority of donor funding finally became available in July /August 2011, several months after the second rain failure (Hillier and Dempsey 2011) and nearly a year after meteorological forecasts. Agencies were then left struggling to program millions of dollars of emergency funds, often in a 6–12-month period. This lack of foresight encourages poor-quality programming that spends lots of money quickly—e.g. tankering water, repairing boreholes, providing fuel, slaughtering and destocking poor-quality animals—and undermines long-term development efforts. Such funds allocated over a multi-year period would be better used to expand efforts for building community drought management capacities and livelihood assets.

Development financing, when provided, is longer term but still often does not have the flexibility to be appropriately reallocated in times of crisis. Increasingly donors are seeking to improve flexibility in this regard; however, this search is more rhetoric than reality. Additionally, although in many countries in the Horn of Africa development funding represents a far larger proportion of overall Overseas Development Assistance (ODA), it is inherently biased away from the most drought-affected areas. Much development funding is provided directly to governments where the tendency is to fund central ministries, urban or other highly populated areas. Development funding to the most drought-prone areas is usually inadequate to address the scale of needs. It also fails to support disproportionately weak government capacity in these areas or address the fundamental gap in government provision of basic services. For example, Kenya's most drought-prone

districts would need at least a sixfold increase in schools and teachers to meet the national average provision of both per head (Fitzgibbon 2012).

The costs of responding to humanitarian crises are growing globally in both frequency and scale. According to a recent study on funding streams for emergency response, aid from governments reached USD 12.4 billion in 2010, the highest figure on record. This trend is particularly true in the Horn of Africa where humanitarian expenditure has almost doubled in the last decade (see Table 2). Given the regularity with which droughts occur, this pattern is unsustainable as appeals for funding continue to outstrip resources available.

Disasters not only consume large amounts of humanitarian aid from the international community, they bring direct and devastating losses to millions living in the affected communities. The economic damage and losses of drought-related disasters in the Horn dwarf the costs of humanitarian response. Recently the government of Kenya completed its post-disaster needs assessment for the extended 2008–2011 drought period (GOK 2012). This assessment estimated the total damage and losses to the Kenyan economy over this period was a staggering KES 968.6 billion (USD 12.1 billion). In Ethiopia, Oxfam estimates that drought costs the country \$1.1 billion per year (Oxfam 2011). Many of the most serious losses cannot be easily quantified, such as lives lost, stunted development caused by child malnutrition, and erratic school attendance.

A recent study commissioned by the UK Department for International Development (DFID) (Venton et al. 2012), compared the relative costs of late humanitarian response, early response, and building resilience to disasters. The study defined

Table 2. International humanitarian aid to countries in the Horn of Africa in the last decade

Major drought events	International humanitarian aid received (USD m) ^a	
	ETHIOPIA	KENYA
2011	823	823
2008	1078	1078
2005	545	545
2003	496	496

^a UNOCHA (UN Office for the Coordination of Humanitarian Affairs) financial tracking service

early response as humanitarian interventions made before the onset or impact of the crisis is greatest, such as supporting animal offtake before body condition and livestock prices decline and multi-year predictable food and cash transfers. The study modelled the costs over 20 years and specifically focused on the impact of drought on pastoralist communities in the Horn of Africa. It concluded that early response is far more cost effective than late humanitarian response as timely assistance significantly reduces the humanitarian survival needs of the affected community. In addition it concluded that while the cost of resilience is comparatively high, the wider benefits of building resilience can significantly outweigh the costs, leading to the conclusion that investment in resilience is the best value for the money (Venton et al. 2012). The reason is clear: funds invested in resilience-building measures reduce the caseload and extent of vulnerability within the target population over time, especially when these factors are combined with early response. Consequently the affected populations are better able to deal with drought episodes without external emergency assistance.

Challenges of climate change on disaster risk reduction

Climate change and variability is a key issue for the Horn of Africa given the region's poverty, geography and existing climate-related vulnerability. The inevitability of climate change is now widely accepted; however, the lack of certainty about its impact means development and humanitarian actors often fail to incorporate the issue into policy and programming. Current evidence suggests that temperatures in countries in East Africa (in cases for which data exist) have seen mean annual increases in temperature of over 1°C in the last 10–30 years.³ Future climatic projections indicate that mean temperatures will increase further. In addition it is likely that the region will experience an overall increase in average annual rainfall. However,

the rain is likely to fall more intensely and over shorter periods, making it less usable. Nonetheless, uncertainty remains as East Africa's seasonal weather is highly influenced by the El Niño Southern Oscillation phenomenon.

A major issue is the long-term nature of climate change and technical understanding of how climate variability translates into disaster management action, which means many humanitarian actors fail to see it as a relevant factor. Even development actors regularly set policy and programming objectives without any reference to the potential effects of climate change. It must be realized that climate change is changing the context in which both humanitarian and development interventions take place. Indeed the philosophy behind climate change adaptation is similar to that regarding DRR—that is, investing now to reduce or mitigate future climate-related risks. The key difference is how far into the future actors are looking. Immediate climate-related disasters—most specifically drought—require immediate solutions, even though these responses may not be the most appropriate from a climate change perspective. For example, the chronic distribution of food or cash to drought-affected communities has encouraged sedentarization in the form of ad hoc settlements. Development programs work to provide better basic services to these communities such as health and education while realizing that doing so is encouraging urbanization, even in locations often inappropriate for settlements.

Horn of Africa governments rightly prioritize economic development in order to address the widespread poverty and vulnerability affecting their populations. Economic investment in the agricultural sector often ignores the rich potential of the livestock industry. Several recent studies have demonstrated that existing climate variability has large economic costs that undermine economic growth (Stockholm Environment Institute 2009). However, future climate change will also lead to additional and potentially even bigger economic

³ Assessing climate change vulnerability in East Africa: A case study on the use of CARE's Climate Change Vulnerability and Capacity Assessment (CVCA) methodology within the Global Water Initiative East Africa Program. Prepared by Shannon Oliver, CARE USA; Tine Rossing, CARE International; and Katharine Cross, International Union for Conservation of Nature (IUCN).

costs if adaptation is not fully integrated into development plans and invested in. Specifically, strategic development plans should ensure that neither public nor private economic development exacerbates climate change—that it does not accelerate carbon emission or result in net reductions in tree cover. Interventions that seek to improve household incomes and resilience by providing alternative or diversified livelihoods should be examined from a perspective of adaptation to

climate change. This is particularly relevant when large-scale interventions are being considered. For example, irrigation of the drylands is regularly proposed as a solution for the growing populations that cannot be supported by pastoralism alone. However, the long-term feasibility of such programs to support large numbers of people needs to be fully examined in each context, given changing weather patterns and the impact of other livelihood groups.

Institutional and political challenges to implementing DRR approaches

Despite the intuitive logic of the DRR approach in theory, it is all too rarely translated into practice. Understanding the challenges and barriers preventing DRR becoming the normal or mainstream approach is an important first step.

Lack of planned holistic approach

Reducing household and community vulnerability to disaster risk involves gradual expansion of all aspects of their livelihood assets: natural, physical, human, social and financial.⁴ Interventions that focus on building household or even community assets can be beneficial but are unlikely to result in transformational change at the scale required. Unfortunately, holistic development planning in the marginal dryland areas of the Horn of Africa is severely lacking. The capacity to develop quality strategic development plans that tackle multi-sectoral issues such as DRR, poverty reduction and resilience building is weak. This is where DRR is important. Local planning is dominated by annual sectoral plans setting out business-as-usual shopping lists with budgets based on the previous year. The formats (and budgets) are usually set by central government providing limited room for local innovation. Holistic local development plans that set out locally agreed multi-sectoral objectives and innovative (or even contextual) solutions are rare. Even ensuring local plans are developed in a truly inclusive and participatory manner is difficult as such planning requires an all-too-rare combination of political will and effective facilitation.

Without strategic plans and frameworks, attempts to build household and community resilience are often undermined because there can be no guarantee that all actors and sectors are working to achieve the same goals. Too often development actors, including civil servants, are stuck in sectoral silos. Consequently staff working in one area cannot see any link or overlap between their sector and others. For example, many food security practitioners fail to see how their programs have any relation to nutrition. At the same time local strategic development plans need input from actors at different levels and wide geographic spread. Local communities and national hydrological experts together have valuable contributions to make in developing sustainable water and natural resources management plans.

Policymakers often fail to recognize that DRR also incorporates longer-term resilience-building interventions required during and in between droughts in sectors not normally included in humanitarian response. For example, support to develop temporary, mobile, alternative education systems that enable remote and mobile child populations to attend school is rarely referred to as DRR. This is perhaps because DRR is not a sector but a cross-cutting issue that has to be placed in the mainstream in all sectors.

Over-reliance on triggering food aid

Emergency responses are heavily biased in favour of food aid. The priority 'headline' from almost

⁴ Drawn from DFID Sustainable Livelihood Framework.

all emergency assessments and appeals is the numbers in need of food aid. Food aid is tangible and immediate assistance that is relatively easy to provide and highly politically acceptable in a drought or crisis period. However, it is extremely expensive and cumbersome to deliver. Too often communities become highly dependent upon food aid before, during and after drought in lieu of other limited or complementary assistance. Food aid supports households to get through the immediate crisis but by itself does nothing to build long-term resilience. Food aid is rarely supplied on time or at the required level, meaning that to survive, households will be forced to sell key livelihood assets such as core breeding stock, or during conflict to abandon or lose their assets when fleeing. The level of food aid distributed is usually a factor of the donor or government funding secured and not based on the assessed food need or 'survival gap' experienced by the affected households. In fact, poorly timed and inadequate food aid can even make households more vulnerable by reducing their livelihood assets over time. Cash transfers delivered on time can help address this problem (see Productive Safety Net Programme in Best Practices examples), but they increase the risk of the drought becoming a disaster. Communities rarely, if ever, cite food aid as a requirement when developing DRR plans. Priority requests regularly focus on the need for improved access to water sources and grazing areas and management of them, as well as expanded livelihood opportunities (Gordon 2012). Fundamentally communities want to pursue sustainable livelihoods that are resilient to drought so that food aid will become unnecessary.

Failure to effectively include communities

Response has been shown to be more timely and effective when provided locally (Zwaagstra et al. 2010). Communities have their own early warning systems and are very aware of the underlying causes of their vulnerability to drought, but they rarely receive long-term meteorological forecasts. When local authorities and communities have been provided with the funds to implement disaster risk reduction plans and programs well before any drought episode, their capacity to cope with the situation has been enhanced. Unfortunately this devolution of resources occurs far too infrequently for several reasons:

- Governments are not generally keen on devolving significant funds for local authorities or communities to use at their own discretion. Possibly this stems from a deep-seated belief that communities cannot make sensible or strategic decisions. However, governments have from time to time created or financed locally devolved drought contingency or reserve funds for local authorities. Donors and UN agencies also support programs that disperse and administer grants to drought-affected communities—usually via local or international non-government organizations (NGOs). Communities have the discretion to spend as they agree to improve emergency preparedness or DRR. This approach is rare and also offers limited coverage. To date, little hard evidence exists that these communities are sustainably more resilient to the effects of drought (Gordon 2012).
- Monitoring and managing hundreds (and possibly thousands) of small grants is difficult. There are limited mechanisms at all levels to support the appropriate administration, planning, utilization and monitoring of such resources. The Arid Lands Resource Management Project (ALRMP) in Kenya was a good example; however, strong fiduciary mechanisms are required to ensure transparency and accountability.
- Quality community-based DRR plans do exist but are not set within wider sectoral and strategic planning frameworks. The fragility of dryland ecosystems and the mobile, isolated nature of pastoralism mean that individual communities often cannot make informed plans. Community-based DRR programs also offer a limited scale of coverage and are highly dependent upon NGOs or others for the majority of funding.

Poor coordination between ministries, donors and local actors

Coordination is essential during an emergency response and consequently several countries in East Africa have established government units or departments to lead humanitarian responses. For example, the Kenya Food Security Steering Group

works across sectors and links the ministries into working sub-groups—Agriculture and Livestock, Health and Nutrition, Water and Sanitation, Education, and Disaster Management. The challenge is how these sub-groups coordinate activities both during and outside of drought to achieve jointly agreed outcomes.

The UN has a specific agency—UNOCHA—dedicated to assisting governments to mobilize emergency funding and coordinate response. Donor coordination with government ministries does happen in some countries within the Horn of Africa. For example, the Kenya Joint Assistance Strategy (KJAS) represents a shared intention between the government of Kenya and 17 partners.⁵ The objective of KJAS was for development partners to channel most of their support through programs, and also to consider providing general or sector budget support if governance, fiduciary and monitoring systems could offer sufficient assurance that funds were being used for intended purposes.

Normally the urgency of a crisis ensures sufficient political will exists among actors and between sectors to enforce the necessary coordination and cooperation required. Unfortunately in non-drought periods few countries have effective mechanisms to ensure that the necessary coordination in planning, policymaking and implementation takes place. Institutions nominally charged with the task, e.g. the Ministry of Northern Kenya and Other Arid Lands, rarely have the political ‘teeth’ or the resources to facilitate the coordination required.⁶ Outside of drought crises, it is not always clear what the roles and responsibilities of agencies should be in preparedness or other stages of the drought cycle. Ineffective information and knowledge management systems

Despite significant investments in early warning systems in East Africa, these systems are seldom used to trigger appropriate timely responses. Instead many governments still rely on seasonal

assessments during a drought to identify priority interventions and then mobilize funding. In addition many other UN agencies and NGOs feel the need to undertake their own local assessments to verify the seasonal assessment and the emergency situation after the disaster has hit. Early warning (EW) systems are an essential component of DRR because they provide the information necessary to allow for early action that can reduce or mitigate potential disaster risk and effects, e.g. recommending large-scale livestock offtake before animal conditions decline. There are several reasons why EW systems fail to trigger action:

- Sometimes users lack confidence in the quality of the data collected and the analysis—large-scale, ongoing data collection needs rigorous quality control systems in place to ensure data are reliable. This is expensive.
- EW recommendations are often general and may give mixed messages. There may be regular multiple bulletins for different parts of the country. This is understandable as the areas covered are large and conditions vary. Unfortunately bulletins often fail to consider who needs this information and why. Without high-quality analysis and synthesis EW reports often fail to offer specific and prioritized recommendations with practical actions targeted to the information needs of respective audiences.
- Decision-makers and households in the affected areas do not always have access to EW information. It must be remembered that the majority of people in the affected areas live in remote areas, have high levels of illiteracy and do not have access to media of any kind.
- Governments and donors are hesitant to act when no real emergency situation has emerged. Decision-makers still find it hard to justify significant expenditures, e.g.

⁵ Canada, Denmark, the European Commission, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, Spain, Sweden, the United Kingdom, the United States, African Development Bank, the United Nations and the World Bank.

⁶ This issue is being addressed by the new Kenya National Drought Management Authority mentioned in the Best Practice section below.

Table 3. Donor spending on disaster prevention and disaster risk reduction (DRR)

Country	Average annual donor spending on DRR (USD)	Average annual donor spending on DRR as a percentage of humanitarian aid (%)	Average annual donor DRR spending per beneficiary of the current drought (USD)	Donor spending on DRR as a percentage of total ODA ^a (%)
KENYA	2.22	0.91	0.59	1.4
ETHIOPIA	3.30	0.59	0.69	0.9

^a ODA – Overseas Development Assistance

Source: Oxfam (2011). Donors spend figures adapted from Global Humanitarian Assistance Report 2011

increasing feeding programs before the numbers of malnutrition cases increase. It is not politically acceptable to fund a non-disaster, particularly when there are so many competing demands for funding.

- Often lacking are baseline data about the communities who are affected by the recurrent shocks.

Inappropriate and inflexible funding mechanisms

For many of the same reasons described above, too little money is spent on disaster preparedness or DRR measures. This is despite the fact that the African Regional Strategy for DRR recommends that 1% of humanitarian and 10% of development funding go to DRR. This is illustrated for Kenya and Ethiopia in Table 3.

Again, the humanitarian and development funding dichotomy means DRR has no 'natural' home and is not considered a priority area of funding for either. Currently most funding mechanisms are not flexible or responsive enough to be allocated at the scale and time needed over the four stages of drought cycle management—mitigation, preparedness, relief and reconstruction. Not only are the recipients the same, but so are the underlying causes that create the need: the vulnerability of dryland communities. Greater hard evidence of the benefits of funding preparedness and early response measures at scale

versus the costs of late and repeated humanitarian response needs to be documented. Evidence is required to convince governments and funders to lobby for this critical shift in the balance of resource allocation.

Best practices in placing DRR in the mainstream

DRR works best when it is incorporated into humanitarian and development programming and effectively reduces disaster risk. It is not a sector by itself. Although individual programs may have a primary objection of reducing disaster risk, they generally work on the back of other sectors—especially food security and livelihoods. Programs focusing on emergency preparedness can be identified as purer DRR, for example establishing EW systems. The following highlight the best approaches in incorporating DRR in the mainstream (outlined in further detail on the following pages):

- Effective EW systems
- Improved coordination and management of drought
- Flexible donor funding
- Enabling communities to manage drought
- Timely and targeted cash and food transfers
- Making livestock-based livelihoods more resilient to drought
- Drought-resilient access to basic services

Effective EW systems

Effective EW is probably the most effective way of reducing the risk, by alerting households and communities, humanitarian and development actors that drought is imminent. Predictive analysis of the next 3–6 months can inform disaster risk actions—response analysis, decisions to upscale or downscale, budget modifications and early action. The challenge with EW systems is not so much the availability of data but more how the data are analysed and translated to inform early action and longer-term development programs.

- **The Food Security and Nutrition Analysis Unit (FSNAU)** in Somalia has over 11 years of experience and is in its sixth phase of a multi-funded project. FSNAU provides researchers, decision-makers and project implementers with critical information on food, nutrition and livelihood security. Two seasonal national assessments are conducted annually using crop, livestock, security, internally displaced persons and flood tools that FSNAU has developed. FSNAU operates a communications strategy to disseminate its information products at all levels to advocate for timely and informed response in the absence of a government system.
- **The Early Warning System in Ethiopia** is implemented nationally under the Disaster Risk Management Food Security Sector, which is placed in the Ministry of Agriculture. The Woreda Early Warning Food Security Task Force analyses and interprets livelihood data and submits reports to the relevant region and to the Woreda Council. Information is fed into decision-making processes to classify allocation of relief to emergency-affected areas and woredas. In Productive Safety Net Programme woredas, EW information is used to help program the newly established contingency funds.
- **The Kenya Food Security Steering Group (KFSSG)** comprises the Office of the President, line ministries, the Famine Early Warning System Network (FEWS NET), the World Food Programme (WFP), the Food and Agriculture Organization of the UN (FAO), the United Nations Development Programme (UNDP), the United Nations Children’s Programme (UNICEF), Oxfam and World Vision International. FEWS NET plays an important role in providing early warning information to this forum, especially based on climatic predictions. This allows the KFSSG to make recommendations for action per sector to the different ministries and their humanitarian and development members.
- **The Famine Early Warning System Network (FEWS NET)** is an activity funded by the United States Agency for International Development (USAID) that collaborates with international, regional and national partners to provide timely and rigorous early warning and vulnerability information on emerging and evolving food security issues. FEWS NET professionals monitor and analyse relevant data and information in terms of their effect on livelihoods and markets to identify potential threats to food security. FEWS NET uses communication and decision support products to help decision-makers act to mitigate food insecurity.

Improved coordination and management of drought

The reduction of disaster risk requires a multi-sectoral approach that straddles humanitarian and development objectives. Putting in place the organizational structures and systems that will facilitate the necessary coordination at all levels is essential.

- **National Drought Management Authority (NDMA).** In 2011 the Kenya Government launched the National Drought Management Authority, which has been given legal authority to coordinate all stakeholders, including government departments, involved in drought management. NDMA builds on the efforts of the earlier ALRMP. It will operate the national EW system, district and community DRR planning including allocating resources, and contingency funds.
- **Ethiopia Agricultural Task Force.** The Disaster Risk Management–Agriculture Task Force (DRM-ATF) was under the Disaster Risk Management–Food Security Sector in Ethiopia. DRM-ATF, with the support of FAO, has helped members prepare for and respond to forecasted drought, floods, crop pests and livestock diseases, and volatile food prices, acting as a tool for coordinating and harmonizing approaches through monthly meetings, discussion forums, monthly and quarterly progress reports, road maps and briefing papers.

Flexible donor funding

Funders need to find ways of providing funds that can be quickly and effectively reprogrammed as conditions change or come in line with EW recommendations. The distinction between humanitarian and developmental funding streams needs to be eradicated.

- **Flexible funding–USAID’s crisis modifier.** USAID in Ethiopia has now regularized this mechanism that provides partners with a 10% contingency if a disaster situation is emerging. It also enables partners to reallocate grant funding as required when conditions change. This enables implementers to scale up, scale down or modify activities as the situation on the ground dictates how best to achieve agreed objectives.
- **African Risk Capacity Project (ARC).** The ARC project is a pan-African disaster risk pool designed to improve drought risk financing in Africa. The overarching objective of the ARC project is to provide governments with fast-disbursing contingency funds to finance drought responses. Led by the African Union Commission and funded by DFID, ARC provides a framework for drought risk financing (e.g. reserves, contingency lines of credit, weather-indexed insurance, catastrophe bonds) that emphasizes crop monitoring and early warning, vulnerability assessment and mapping, emergency response, and financial planning and risk management.

Enabling communities to manage drought

Providing communities with the skills and resources to identify, plan and implement actions to reduce the impact of drought is an obvious DRR intervention. It is important to note that community-based approaches require long-term engagement if interventions are to be effective and sustainable.

- **Community-Managed Disaster Risk Reduction (CMDRR).** CMDRR is an approach that can help a community identify the hazards they are exposed to and design effective measures to promote resilience to them. CordAid has been supporting partner NGOs and communities in Ethiopia, Kenya and Uganda for the last decade to develop and implement CMDRR action plans. These plans aim to build on the communities’ existing knowledge and skills and put them in control of planning and executing interventions. Examples of community-led initiatives include clearing invasive *Prosopis* bushes to reclaim pasture and use the bush for charcoal production; re-establishing the management of dry season grazing sites; constructing and maintaining dry-season water reservoirs; installing rainwater harvesting systems on all buildings.
- **Sustainable water supplies.** In the drylands communities regularly identify a reliable water supply as a priority need. Many water interventions fail—primarily because communities lack the ongoing management and maintenance skills to sustain a water source’s operation. Oxfam had found itself repeating the same reactive WASH (water, sanitation and hygiene) interventions, often to the same communities, each time there was a prolonged dry spell or drought. A more successful initiative was to introduce a solar-powered water pump to a village in Turkana. Although initially expensive the running costs are far lower. This means revenues to the village water user association are exceeding operating costs for the first time. Additionally the association can charge less to users. This has increased access to and use of clean water with all the associated health and nutritional benefits. In the 2008/09 drought the village had an uninterrupted supply of water throughout—with no need for external support.
- **Reducing water tankering.** Many dryland communities are forced to rely on water tankering during drought periods or dry seasons as a result of failed or poor water provision. To address this dependence on water tankering by government or NGOs, CordAid in Kenya provided water vouchers to communities during 2011. These were redeemed with local water user associations who then had the resources to tanker or find other solutions to provide their own communities with water. This solution strengthens their management skills and, given the local demand for water, increased accountability.

Timely and targeted cash and food transfers

Food and cash transfer programs are in place in all countries in the Horn of Africa. Most started as humanitarian responses but most are now ongoing annual programs that have been modified to ensure they not only address immediate food needs but reduce long-term vulnerability as well.

- **The Productive Safety Net Programme (PSNP)**, Ethiopia. Ethiopia has long faced repeated droughts. Annual ‘emergency’ appeals for food assistance regularly resulted in the late arrival of food aid, forcing affected households to sell assets and resort to environmentally destructive coping mechanisms. PSNP, launched in 2005, was an attempt to break this destructive cycle. The program provides predictable and timely cash and food transfers to up to 10 million Ethiopians each month. The transfers are made to vulnerable households even when the harvest is good. This enables the vulnerable to build assets in good years and improves their ability to cope with adversity in bad ones. By guaranteeing the provision of cash or food at set times of the year, the program protects people from the adverse effects of shocks and gives them the means to plan for the future. It is proving far more effective than annual emergency assistance. Assessments (Berhane et al. 2011) have shown it is helping families to:
 - remain food secure for longer
 - avoid selling their productive assets to buy food
 - continue to send children to school even during drought periods
 - take out loans
- **Using food aid to stimulate markets.** In northern Kenya, a consortium of NGOs and WFP distributed monthly food aid to as many as 79,000 food aid beneficiaries via local shops owned by private sector traders rather than via NGOs. This strategy has proven to stimulate markets for traders, increasing incomes, turnover and trade in remote market locations. In addition, imported pulses in the food ration were substituted with vouchers for local food products (milk, meat and fish) purchased from local producers. Consequently the project provided food relief and also stimulated local pastoral and fishing production by providing a guaranteed demand for producers. The project provided much needed regular income for local pastoralists and fisherfolk, many of whom were food aid beneficiaries.⁷

Making livestock-based livelihoods more resilient to drought

Enhancing and diversifying livelihoods is an effective way of reducing disaster risk. In the arid and semi-arid lands pastoralism is the primary livelihood. Pastoralists’ ability to cope with drought has reduced in recent decades for a variety of reasons, which are the focus of many livelihood projects. Livelihood programs that sustainably improve the viability of pastoralists and work within the drought cycle are the most effective in building resilience.

- **Sustainable natural resources management (NRM).** Veterinaires Sans Frontieres (VSF) Germany in Kenya worked with local communities to facilitate links with Kenya Wildlife Service to access Sibloi National Park during times of drought (REGLAP 2011). By working with security services and peace committees to support reciprocal resource agreements on each side of the Kenya–Uganda border, pastoral communities were able to increase their mobility and access to pasture. This approach can significantly reduce livestock deaths during drought.
- **Commercializing camel milk production.** Camel milk has long been a main staple in pastoralist diets, with camels producing milk right through drought periods. SNV of the Netherlands and VSF Suisse have been working with camel pastoralists in Isiolo to support the commercialization of this production. The

⁷ Using Food Aid to Stimulate Markets in Pastoral Areas project. See Save the Children UK, draft internal evaluation.

effort is building on two important trends: first, the growing urban demand for camel milk from pastoral communities now living in towns (particularly the Somali population of Eastleigh, Nairobi). Second, the expanding production of camels as a more drought-resistant animal. A critical intervention is to improve the quality of milk to consumers. The quality is now endangered by unhygienic handling along the supply chain. Mass training of producers, traders and bulkers, transporters and retailers has been undertaken along with the supply of aluminium milk cans. Since 2005 there has been a 24% increase in camel milk traded to Nairobi with prices more than doubling, reflecting the increased quality of milk being supplied.

- **Livestock marketing and grazing workshops.** Following increasing and repeated livestock losses by traditional pastoralist communities in Marsabit and northern Kenya, Food for Hunger developed a livestock marketing program. In addition to standard interventions such as renovating local livestock markets and establishing livestock market associations, Food for Hunger also ran livestock marketing workshops to pastoralists to encourage timely livestock offtake. The workshops encouraged pastoralists to examine the losses and potential income they could have made if animals had been sold in good condition before the drought intensified. The workshops also looked at how income from sales can be used to maintain the remaining herd through drought or to re-invest in more animals following rains. In less market-orientated pastoral areas, supporting pastoralists to become commercialized can radically improve household income and stem the growth of drop-out pastoralists.
- **Working within the drought cycle.** Increasingly donors and NGOs are working together to develop programming that recognizes the inevitability of drought and has the funding flexibility to respond to the seasonal calendar drought cycle. Good examples include the government of Ethiopia working with Pastoral Livelihoods Initiative funded by USAID; and the PILAR project (Preparedness Improves Livelihoods and Resilience) funded by the European Commission with input from Save the Children US and UK, in Ethiopia. The Pastoral Livelihoods Initiative was jointly designed and implemented by a range of NGOs, private sector representatives and universities in an effort to strengthen livelihood security among pastoralist populations (Feinstein International Famine Center 2006). Interventions include early market purchase of stock before the onset of severe drought; restocking with improved breeds of small ruminants (sheep and goats) while improving productivity of existing breeding stock; and engagement in immediate opportunities for long-term livestock market development (including policy reform and public-private partnerships for systems improvement).

Drought-resilient access to basic services

- **Mobile, non-formal schools.** NGOs have piloted a wide range of non-formal schooling options in pastoral areas to increase the appropriateness and accessibility of school for pastoral children. The mobile and seasonal nature of the pastoral lifestyle mean it is often totally incompatible with formal school terms. Key features of non-formal schools include: flexible calendar and hours of operation, and teachers selected and trained from within the community. Often communities support construction and maintenance of schools and are responsible for their management and governance.
- **School feeding.** National governments and WFP support ongoing school feeding programs. These programs ensure that schoolchildren receive at least one cooked meal a day. In times of hardship this food is a valuable incentive for children to remain in school.

Recommendations for placing DRR in the mainstream

DRR is a widely used but poorly understood term. In the Horn of Africa too much emphasis is given to addressing drought, which is the primary but not the sole hazard, and not enough emphasis on the underlying causes and on the vulnerabilities of the affected populations. Drought, by itself, is not a disaster, and that needs to be more widely understood. The recommendations following focus on ensuring DRR is integrated into wider planning and development processes. Significant time and effort need to be invested in changing attitudes and systems from the traditional relief-development dichotomy towards a more holistic approach. Recommendations are summarized and disaggregated by stakeholder in Table 4 at the end of the paper, to clarify the specific roles and responsibilities we all have in reducing disaster risk.

Appropriate policy and legal framework

Good policy is the first step in demonstrating the political will to bring about change. The active participation of East African governments in developing national ending drought emergency action plans is a positive first step. Often legislation does not have practical guidelines for implementing disaster laws (if they exist) or for clarifying the roles of different stakeholders within and outside government. Without wide participation and engagement in these plans and policies, change will be limited.

Sound policies also need appropriate resources and a supportive legal framework. These both require strong advocacy and lobbying with the appropriate politicians and decision-makers. The levels of investment required to address disaster risk in the Horn of Africa will be significant. The (re-)allocation of such significant budgets may likely compromise existing or proposed plans in other ministries or parts of the country. The drought-prone areas of most of the Horn of Africa are usually the least populated and therefore the least politically important, which means the case for investment at scale is compelling.

Similarly the legal frameworks required are likely to face significant internal and external resistance

in many countries—for example, enforcing land rights that support mobile pastoralism when they conflict with expansion to large-scale agriculture, or water legislation that may limit some current users extraction rights. To pass and enforce appropriate legislation a wide-ranging constituency of support must be inbuilt at all levels. In some countries, the use of the press and media in highlighting the rationale behind decisions and the need for such legislative frameworks can be important. Key areas where national regulatory frameworks, policies and legislation require review include land tenure, integrated and participatory land-use planning, NRM, food security, nutrition and agriculture.

Donor governments will also need to rethink their policies and resource allocation (as mentioned above). Developing a clear body of evidence to back up the rationale or need for policy or legal change and the necessary resource allocations will be important.

Identify or create appropriate institutions to coordinate and manage DRR

A clearly assigned coordination body or institution in each country should be identified or created to coordinate and integrate DRR implementation in practice. The multi-sectoral nature of DRR means it straddles multiple ministries and departments, as well as the relief to development continuum. Deciding which institution should take the lead in coordinating DRR planning, policy and implementation at both national and local levels is not straightforward. Arguments are contradictory for creating new institutions or using existing ones. Governments have often faced similar problems in establishing effective government disaster response systems.

Assigning an existing ministry to handle DRR and drought management may not ensure the cross-sectoral or interministerial attention and analysis that is required. For example, by putting it under, say, the Ministry of Agriculture, it would be difficult to ensure the full engagement of the ministries of Education, Roads or Health. At the same time stand-alone institutions or ministries rarely have the resources or political clout to effectively engage and coordinate bigger 'A' list ministries. A preferred option is to give the issue 'special initiative' status and create a unit or department within a core

ministry such as Planning or Office of the President or Office of the Prime Minister.

The roles and responsibilities of the identified agency or department must be clearly established—at both national and local levels, so that it does not duplicate the role of existing ministries and other duty bearers. Ideally the institution will support the institutionalization (or mainstreaming) of DRR and Ending Drought Emergencies into partner ministerial policies, plans and budgets. The coordinating agency will also have a key role in monitoring and evaluating progress against national-level targets. This body can also take the lead in supporting partners (both governmental and non-governmental) to audit their current programs via a DRR lens and undertake the necessary training and realignment of policies and guidelines.

Improved development planning processes at all levels

The long-term or developmental nature of DRR also needs to be more widely appreciated so that actors can see that much of what they already do could reduce disaster risk if it is done properly, and done at the right time and at scale. This shift in perceptions and emphasis of approach will require a multifaceted approach in terms of training, advocacy and support to all actors to improve understanding and institutionalize DRR.

Ensuring that DRR and management are inherent principles in national action plans is an important part of this process. DRR planning should be embedded in, not parallel to, strategic and local development planning processes. Increased investment is required in local government and community capacity to improve the quality of local strategic planning, implementation and monitoring processes. Ongoing training and capacity building are required to improve understanding and acceptance of the DRR principles that will inform and strengthen strategic and sectoral plans.

Improving local strategic planning and accompanying outcome frameworks is important. Planning processes based on better analysis of vulnerabilities, early warning or wider information systems and other contextual factors should result in better plans. Improving the level of participation and involvement in delivering and monitoring such

plans at all levels is another key focus for training and capacity-building support. Local plans will benefit from involving as many local stakeholders as possible—particularly communities and the private sector. This involvement will ensure improved problem analysis and identification of more innovative and effective local development strategies. Local plan development (particularly in areas such as NRM) should also involve wider or national technical organizations and experts to support coherent priorities and interventions to reduce risk and adapt to climate change.

All development plans (national, local, community) must incorporate contingency plans for disaster response as it is clear that hazards such as drought will occur during a normal planning timeframe. This is an essential component of DRR and should encourage consideration of how prioritized development activities will be modified during times of stress and how more can be done to mitigate the negative effects beforehand.

Improve information and knowledge management

Improving the quality, credibility and integration of information systems is critical to improving the quality of DRR and all development processes. Recommendations provided here fall into two broad areas: first, improve long- and short-term planning, decision-making and response; second, recommend ways to improve the ability of governments and other agencies to monitor and evaluate impact and to identify best practice for informing future policies and programming.

Improve long- and short-term planning and response

Currently vast data collection processes are in place throughout East Africa by all actors and sectors. Long-term strategic planning as well as short-term and immediate responses are all immeasurably improved if based on quality information that is appropriately and swiftly analysed. As mentioned above, many actors fail to respond to the large amount of EW information that exists. It is clearly logical that all stakeholders should invest in a single system for data collection, analysis and response. EW systems should be integrated into wider national and local information collection and analysis processes. Too often EW systems focus

on a rigid set of drought-focused indicators. As explained, good DRR programming should take a more holistic and long-term approach. Programming decisions should not be made simply on the basis of this month's rainfall, livestock and maize prices, etc. Such data should be analysed alongside wider information such as livelihood strategies, welfare indicators, hydrological or agro-ecological status. Again the more locally such analysis and decisions on response can be made the better. In working to develop more holistic, harmonized information management systems, governments and donors should consider the following:

- Review current information management systems (governmental and non-governmental) to assess gaps and duplication. Review who uses data and precisely what information they need. Analyse and re-package the dissemination of data in the format and at the frequency that is useful to them. This includes the communities from which data are extracted.
- Establish the reasons for failure to use or respond to current EW or other information with all stakeholders. Promote harmonization of EW and other information systems. Ensure they monitor all hazards and can pick emerging local, regional and international trends.
- Establish widely agreed triggers at local and national levels for key responses. Support the process by providing contingency funding to be automatically released by the agreed triggers. Prioritize the establishment of information systems in most at risk and vulnerable 'hot spot' areas so that hazards are monitored and actions taken before threats evolve into crises.
- Ensure data are collected and analysed as locally as possible. Local analysis can result in better and more appropriate decision-making and interventions. National aggregation and analysis of data tends to result in blunt responses (such as X amount of food aid) rather than more locally appropriate (and effective) solutions. This

collection will involve a significant investment in cultivating local skills and technology. Seconding staff and adopting systems from NGOs, the private sector or other agencies could be considered.

- Link the early warning information to response analysis.
- Establish standard operating procedures for coordinated scenario and preparedness planning that targets local as well as transboundary threats such as pest and disease outbreaks⁸ and includes timely interventions to counter threats to food and nutrition security.
- Make sure coordination is both vertical and horizontal, between the different agencies at all levels.

Assess impact, identify best practice to inform future policies and programming

The focus on DRR is only useful if the policies and programs it informs result in reduced disaster risk and improved resilience. As mentioned, DRR can encompass many interventions; however, some are far more effective than others at actually reducing disaster risk. In addition, different interventions may be more or less effective depending on the specific context. A key challenge in assessing the effectiveness of DRR interventions is the lack of a collective or common understanding of what successful resilience looks like, that is, the end state. Currently many actors are not monitoring the extent to which DRR has been achieved and indicators are weak or non-existent. For example, there are gaps in assessing how far livelihood diversification programs have increased the income or improved the food security of beneficiaries. This problem is due in part to the short-term nature of program funding, which does not facilitate monitoring of longer-term results such as DRR.

Much more work is required to establish standard outcomes and indicators that can be systematically monitored around the region to identify effective DRR interventions and best practice. The monitoring

⁸ Good lessons are to be taken from the global avian influenza pandemic that could be incorporated into contingency planning and used to inform standard operating procedures: www.un-influenza.org/documents

framework for the Ending Drought Emergencies plan will need to set targets and indicators that can be tracked over the short, medium and long term. This framework should have some key performance indicators that are valid at all levels as well as a standard list of others applicable in different countries, sectors and contexts. The cost-effectiveness of different interventions also needs further systematic assessment using both qualitative and quantitative analysis. Such analyses are required to inform governments and donors how to prioritize resources.

Significant capacity building of governments and of humanitarian and development actors to monitor and analyse emerging risks and generate appropriate actions will be required. Sustained investment is required to improve information collection, analysis, decision-making and monitoring systems. It may include investing in the appropriate technologies (IT systems, databases, SMS, modelling software); systematic training in information management, monitoring and evaluation, etc.; improving research capacities of local universities; and promoting national centres of excellence.

Improved funding mechanisms

Governments and donors need to review and revise funding mechanisms so that timely, appropriate interventions can be undertaken as required and the damaging split between relief and development can be eliminated. Flexible funding mechanisms are required that 1) substantially increase the amount allocated (at all times) to drought mitigation, preparedness, reconstruction and resilience building; and 2) can be reprogrammed or scaled up quickly as conditions dictate. There is a need to converge humanitarian and development funding streams to provide multi-year investments supported by multi-year funding integrating DRR throughout the drought cycle.

The use of contingency funds that can be quickly accessed when required is an increasing practice. Ensuring contingency funds are sufficient to enable early action on the scale required may be more of a challenge. The willingness of government and

donors to devolve the control of these funds to others on the basis of early warning or other information is another barrier. The recently established National Drought Management Authority in Kenya will manage a large contingency fund (financed by donors and government) on this basis. There will need to be a long-term engagement with communities to ensure that contingency funds are effectively managed and used. Rigorous monitoring of the financial and other benefits of preparedness and early action will be important in advocacy to scale up and regularize this approach to funding in the Horn of Africa.

Government and donors will also need to review the equity of their mainstream development budgets (including both revenue and capital expenditure flows). This analysis is important to identify the inherent bias against drought-prone areas in terms of service provision and economic development. Establishing benchmarks for providing key infrastructure and basic services in these areas to the national average would be useful targets in setting expenditure priorities.

Infrastructure and delivery of basic services

The lack of adequate infrastructure and poor basic services to the drought-prone areas of the Horn of Africa cannot be overstated as key factors increasing disaster risk. The capacity of drought-prone areas to cope with hazards or build their livelihoods is fundamentally undermined by a severe lack of roads, electrification, communication, and basic and financial services. Improved infrastructure can put more pressure on natural resources, hence the need for improved NRM planning and regulation. The value of such infrastructure is well appreciated but the cost of providing it over large, remote and sparsely populated areas is immense. Although the cost of such 'resilience-building' interventions is initially high, the wider benefits of building resilience to disaster risk can significantly outweigh the costs. When modelled over time, such investments have been found to reduce humanitarian costs significantly. In the long term such investments demonstrate good value for the money (Venton et al. 2012).

Concluding remarks

Disaster risk reduction is widely acknowledged as a valuable approach that can reduce the regular and increasing experience of damages and losses by drought-prone populations in the Horn of Africa. Unfortunately its application in reality has been limited and there is little evidence of any reduction in disaster risk. The key reasons for this failure to turn DRR theory into practice have been outlined above.

It is important to note the DRR is an approach not a sector. Although there can be specific DRR interventions that have the direct objective of reducing disaster risk, they represent only one aspect of a much wider issue. DRR that focuses on preparedness for a hazard such as drought, or

a response to it, can have only limited impact. DRR must also address the other elements of the disaster risk equation.⁹ Effective DRR will inform a wide range of interventions to address the underlying vulnerabilities and weak capacities of the affected populations. DRR is therefore an integral element of wider resilience-building efforts that operate along the humanitarian and development divide, and over time from the very immediate to the very long term. DRR is also about systematically incorporating risk reduction considerations into all development and humanitarian policy and programming. Mainstreaming DRR is essential if the frequency and impact of disasters is to be reduced and the vicious spiral of poverty and vulnerability that disasters precipitate and reinforce reversed.

⁹ See Box 1 in the section Background and Introduction for the equation.

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