RISK ASSESSMENT
BORANA, ETHIOPIA

A DESK STUDY UNDERTAKEN BY THE SWISS NGO DISASTER RISK REDUCTION PLATFORM

SWISS NGO DRR PLATFORM

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ABOUT THE SWISS NGO DRR PLATFORM

The **Swiss NGO Disaster Risk Reduction Platform** is a network of Swiss-based non-governmental organisations dedicated to increasing the resilience of women, men and children, communities and governments to all aspects of disaster risk reduction and climate change adaptation.

Its main goal is to support people and institutions prepare for and adapt to climatic trends and shocks, to more effectively mitigate risks and to enhance risk prevention in the humanitarian and development sectors. The Platform operates through ad-hoc working groups composed by its members, by enabling and supporting policy debate among state and non-state actors in Switzerland and by capturing and sharing knowledge and experiences relating to DRR and CCA of Swiss NGOs and their partners.

The objectives of the Platform are to:

- enhance the quality of DRR and CCA services of member NGOs through a mutual exchange of information;
- contribute to shaping Swiss DRR and CCA policy by capitalising on Swiss NGO experiences; and
- position Swiss DRR and CCA expertise in international co-operation by establishing and enhancing partnerships.

This Risk Assessment was commissioned by a Working Group of the Platform's members. Its main objective was to conduct a desk study risk assessment and reality check on the ground that would inform Swiss NGOs active in Ethiopia about hazards, vulnerability, capacities and gaps at the national and Borana *Woreda* level, with the aim to enhance project planning and implementation in line with national policies and agencies active on the ground.

This Risk Assessment is largely based on a literature review of available resources. Preliminary findings were presented to, and discussed with, a small group of Swiss and local agencies (HELVETAS, HEKS-EPER, Caritas, the Swiss Red Cross and ACORD) in Addis Ababa, Ethiopia, on 29 June 2015, allowing for direct inputs to be made to the findings. The final Risk Assessment was also reviewed by selected members of the Platform, with a particular interest in the Borana Zone.

The Risk Assessment was compiled by ProAct Netwrk – David Stone, Chris Taylor, Gemechis Guidina and Taye Yadessa. Our thanks are expressed to members of the Platform for their time in reviewing this document as well as to all those who contributed to the useful exchanges in Addis Ababa.

EXECUTIVE SUMMARY

Ethiopia experiences a wide range of natural hazards, many of which have made international headlines over the past 40 years given their scale, frequency and the number of people gravely affected by these events.

Drought and floods – often recurring events within the space of a few years – are the most serious hazards, with the former accounting for 98 per cent of fatalities in the southern lowlands, a focus of this assessment. The country's vulnerability to natural disasters is due to a number of inter-linked factors: dependence on rain-fed agriculture, under-development of water resources, land degradation, low economic development and weak institutions.

As one of the world's poorest countries, Ethiopia's dependence on rain-fed agriculture means that it is especially vulnerable to climatic events. The nation's economy is heavily dependent on agriculture, which accounts for about 42 per cent of gross domestic product. In the Borana zone alone, it is estimated that more than 40 per cent of income is derived from the sale of livestock.

Complex pastoralist management systems have evolved in Ethiopia from peoples' successful adaptation to living in the harsh and unpredictable conditions of arid and semi-arid lands. Pastoral communities today represent 10 per cent of the country's population: approximately 60 per cent of the land area is considered to be under pastoral production. This way of life is, however, now facing a range of social, economic, political as well as climatic pressures, some of which are forcing people to abandon their former, traditional livelihoods and to migrate.

Adding to these pressures has been an increasing weakening of institutions. The traditional governance system is known as the "G*ada"* – an institution which manages access to essential resources such as traditional wells and grazing lands. It plays an important role in conflict prevention and resolution, though its authority has been significantly eroded in the past decade. Among the many impacts related with this are rangeland degradation, increasing conflict over land access and reduced management of natural resources and ecosystems, some of which will contribute to future vulnerability and risk in both highland and lowland areas.

In addressing risk and vulnerability, the government has made a major commitment to change. While there are still some major policy concerns, measures taken in recent years – for example the 2013 Disaster Risk Management Policy (which is accompanied by a new administrative structure) – are to be commended, notable on account of them marking a shift in orientation from crisis management to a forward-looking, multi-sectoral and multi-hazard disaster risk management strategy.

Added to this have been the Productive Safety Net Programme, Ethiopia's largest social protection programme and a major component of the Food Security Programme, as well as the Climate Resilient Green Economy Strategy. The latter has been established to support Ethiopia's aims of developing a green economy and promoting greater resilience to climate change under a single policy framework, in support of its national development objectives.

While Ethiopia should be applauded in its efforts to support DRR and CCA, it still faces a number of challenges, which include:

- a disconnect between DRR and climate change institutions, partly due to overlapping mandates, which translates into a lack of responsiveness at the local level;
- significant gaps in capacity continue to exist within all government bodies at the federal and *Woreda* levels; and
- knowledge and communication of DRR/DRM remains a considerable hurdle at the lower levels of government administration which, in turn, acts to hamper community participation in processes and activities.

According to the government's own analysis, there is an institutional gap in so far as there not being a formal organisation responsible for the development of the pastoral and agropastoral areas. There is, therefore, a need to find ways that local government can work with traditional institutions to ensure effective governance and natural resource management.

Many lessons have been learned through analysis of the diverse coping mechanisms applied by pastoralists, in particular. Future interventions in this field should take note of these practices and bring them to scale, while respecting essential fundamentals such as the carrying capacity of the region's rangelands. At the same time, what is essential is to explore how community members can be more widely involved in community-level drought preparedness activities, which will require training, institutional re-inforcement and the application and dissemination of of timely and appropriate early-warning information.

Much can be done in terms of reducing vulnerability through encouraging and supporting livelihood diversification which would, at the same time, allow at-risk pastoral communities to be in a position to make better informed decisions about their own future. Greater co-ordination and co-operation is, however, needed between international and national organisations and the government for this to happen, particularly in this country given the often significant investments in relief assistance, most of which bears little relation to actual or intended development work.

Specific recommendations (Section 6 of this report) are made in terms of:

- strengthening application of the 2013 DRM policy;
- closing identified gaps in the legislation;
- extending the policy's outreach and uptake to the *Woreda* and *Kebele* levels;
- re-inforcing traditional governance systems that in the past have defined the very essence of pastoralism;
- forging links between scientific and traditional approaches in early warning; and
- suggested areas of essential reform to support and enable the vibrant and community supporting system of pastoralist to resist future shocks and stressors.

This Risk Assessment was commissioned by members of the Swiss NGO Disaster Risk Platform. The focus of this document relates to vulnerability, risk and pastoralism and thus relates to the arid and semi-arid land regions of the country, with a specific focus on the Borana zone of Oromia.

TABLE OF CONTENTS

ACRONYMS

ASAL	Arid and semi-arid lands
CBNRM	Community-based natural resource management
CCA	Climate change adaptation
DPPA	Disaster Prevention and Preparedness Agency
DRM	Disaster Reduction Management
DRMFSS	Disaster Risk Management and Food Security Sector
DRR	Disaster Risk Reduction
ECHO	European Commission – Humanitarian Aid and Civil Protection
EHCT	Ethiopian Humanitarian Country Team
EWRD	Early Warning and Response Directorate
EWS	Early Warning System
FAO	Food and Agriculture Organisation (of the United Nations)
FEWSNET	Famine Early Warning Systems Network
FSCD	Food Security and Co-ordination Directorate
GDP	Gross domestic product
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
ha	hectare
HEKS	Hilfswerk der Evangelischen Kirchen Schweiz (Swiss Church Aid)
ILBI	Index Based Livelihood Insurance
ILRI	International Livestock Research Institute
km	kilometre
m	metre
LEAP	Livelihoods, Early Assessment and Protection index
MOA	Ministry of Agriculture
NPDPM	National Policy on Disaster Prevention and Preparedness Management
PARIMA	Pan Asia Risk and Insurance Management Association
PRM	Participatory Rangeland Management
PSNP	Productive Safety Net Programme
REGLAP	Regional Learning and Advocacy Programme
RRC	Relief and Rehabilitation Commission
SPIF	Strategic Programme of Investment Framework
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
NDPPFA	National Disaster Prevention and Preparedness Fund Administration

DEFINITIONS

Adaptation	The adjustment in natural or human systems in response to actual or expected climatic stimuli for their effects, which moderates harm or exploits beneficial opportunities. (UNISDR 2009).
Borana Zone	Administrative district in Oromiya State.
Contingency planning	A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses. (UNISDR 2009).
Drought (UNISDR 2009)	A deficiency of precipitation over an extended period of time, usually a season or more, which results in a water shortage for some activity, group or environmental sectors.
Disaster Risk Management (UNISDR 2009)	The systematic process of using administrative directives, organisations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.
Disaster Risk Reduction	The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure of hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. (UNISDR 2009).
Early warning system	The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individual, communities and organisations threatened by a hazard time to prepare and act appropriately and in sufficient time to reduce the possibility of harm or loss. (UNISDR 2009).
Environmental degradation	The reduction of the capacity of the environment to meet social and ecological objectives and needs.
Gaana rains	March to May rains, falling in southern Ethiopia.
Gada system	Historical democratic and egalitarian system of governance practiced in Oromo peoples of Ethiopia (including the Borana).
Hazard (UNISDR 2009)	A dangerous phenomenon, substance or human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.
Kebele	Lowest administrative unit of government.
Resilience	The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. (UNISDR 2009).

Risk	The combination of the probability of an event and its negative consequences. (UNISDR 2009).
Vulnerability	The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. (UNISDR 2009).
Woreda	"District" level administrative unit.

1. INTRODUCTION

1.1 BACKGROUND

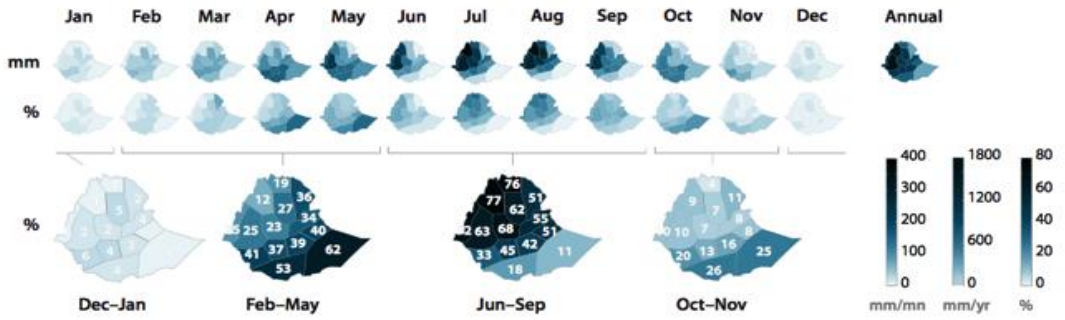
A land-locked country with a surface area of about 1.2 million square kilometres, Ethiopia is the 7th largest and 2nd most populace (after Nigeria) country in Africa. Located in the sub-region better known as the "Horn of Africa" (Figure 1), the topography of the country is largely a high plateau which extends from 100m below sea level in the Dallol Depression of Afar, to mountain peaks of over 4,000m above sea level in the Semien Mountains. There are also extensive dry, lowland areas.

Ethiopia lies within the tropics and is near the equator. The country experiences three seasons: "winter", the cold, dry season, which lasts from October to February, followed by a hot, short rainy period ("*Belg*") from March to May, after which the main rainy season occurs – from mid-June to September ("*Krempt*"). The heaviest rains fall in July and August (Figure 2).

The rainy season does, however, vary from one region to another but underpins much of the economic and social fabric of the country. Cropping communities in the northern, central highlands, and western parts, for example, rely more heavily on the *Krempt* rains, while the *Belg* rains are of vital importance for the pastoral and agro-pastoral communities in the eastern and southern parts of the country.

Figure 1. Map of Ethiopia

Figure 2. Annual Precipitation Cycle Across Ethiopia



Source: Recent Drought and Precipitation Tendencies in Ethiopia. 2012.

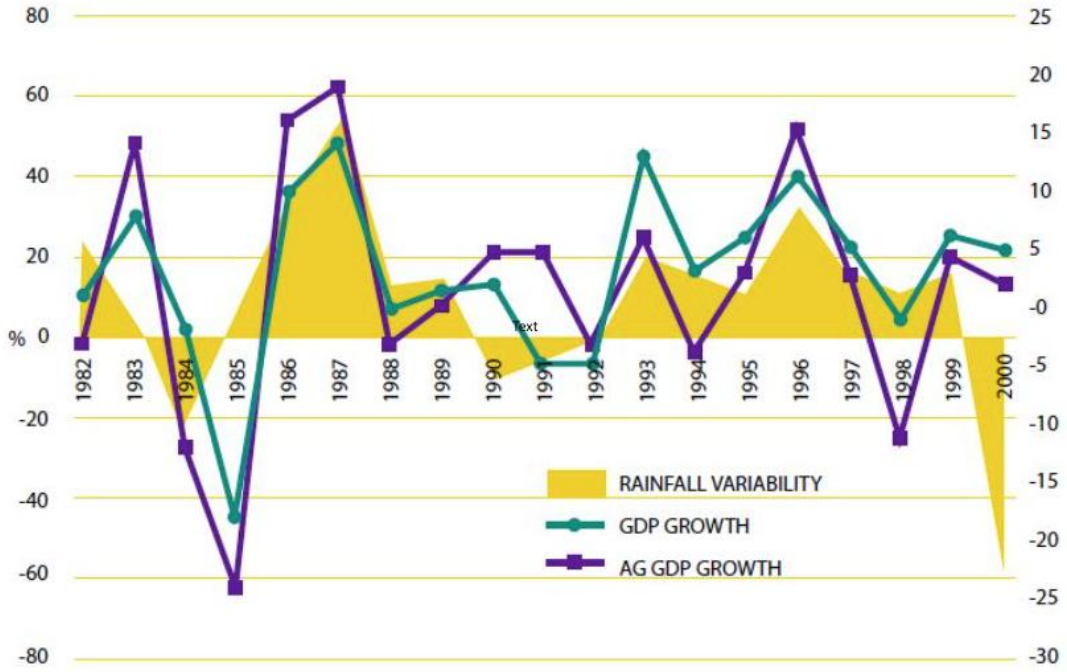
Altitude too plays a predominant feature in terms of temperatures, with figures of 10-16°C being recorded in the highlands (between 1,500 to 2,500m above sea level), rising to more than 30°C in the desert lowlands. The climate and, more specifically, drought and unpredictable rainfall are major determinants of the country's economic situation (see Figure 3).

Data reviewed in the course of compiling this Risk Assessment point to the fact that the magnitude, frequency, and impacts of droughts have become more severe in the country since the 1970s (World Bank, GFDRR and ISDR, 2011).

According to the IPCC, "climate change is very likely to have an overall negative effect on yields of major cereal crops across Africa, with strong regional variability in the degree of yield reduction" (IPCC, 2014). Despite its potential and on account of its vulnerability, In terms of the estimated level of food insecurity, Ethiopia is amongst the top five countries in Africa (GAR, 2015).

Ethiopia has a rich cultural mosaic due to its 80 different languages and dialects and as many cultural variations of these. The Oromo people in the south-west, central highlands and south-east are Ethiopia's largest ethnic group, practicing agriculture and pastoralism as their livelihoods. According to the 2007 census report, the population of Oromia was over 27 million, making it the most densely populated state and accounting for more than 35 per cent of the total population of the country.

Figure 3. Economic Growth and Climate in Ethiopia



Source: The Economics of Early Response and Resilience: Lessons taken from Ethiopia.

While the Borana make up the majority of the population in south-eastern Ethiopia, it is important to recognise that members of other Oromo clans and different ethnic groups also live in the area and share its resources. Tache and Irwin (2003) identify four separate ethnic groups in this region according to their principal livelihoods:

- semi-settled pastoralist Oromo groups, such as the Borana, Guji and Gabra;
- agro-pastoralists and cultivators living in mixed Oromo groups, primarily the Borana, Guji and Gabra;
- nomadic pastoralists – *Garri* ("returnees")[2]; and
- peri-urban and urban poor of mixed ethnicity – the Borana, Guji, Gabra, Merihan (returnees), Garri (returnees), Konso and Amhara.

In terms of development and economy, Ethiopia is considered by many to be one of the most under-developed nations in the world (World Population Review, 2015)[3]. With a 2014 population of approximately 96.5 million people, Ethiopia has one of the lowest incomes per capita (see also Box 1). Government has, however, been investing heavily in economic and social infrastructure, streamlining public services, revamping the tax collection system, and supporting small and medium enterprises (UNDP, 2015). It has also prioritised key sectors such as industry and agriculture, as drivers of sustained economic growth and job creation. The most recent data, for 2012-2013, reveal that Gross Domestic Product (GDP) registered a growth rate of 9.7 per cent (UNDP, 2015). Agriculture contributed some 7.1 per cent to this figure which, while representing an increase over the two previous years, was still far below the 13.5 per cent figure recorded in 2004-2005.

BOX 1. ETHIOPIA's DEVELOPMENT IN FIGURES

Ethiopia's population has increased steadily over the last three decades, from 42.6 million in 1984 to 53.5 million in 1994 and 73.8 million in 2007. It is currently estimated at more than 96 million.

Ethiopia is one of the least urbanised countries in the world; only 16 per cent of the population lives in urban areas (CSA, 2010). The majority of the population lives in the highland areas. The main occupation of the settled rural population is farming, while the lowland areas are mostly inhabited by a pastoral people, who depend mainly on livestock production and move from place to place in search of grass and water.

- More than half of the country's households (54 per cent) have access to an improved source of drinking water.
- Only 8 per cent of households have an improved toilet facility, not shared with other households.
- About one household in every four has electricity.
- A large proportion of the Ethiopian population (47 per cent) is under the age of 15.
- More than one household in every four is female-headed.
- Twenty-seven per cent of Ethiopian children aged 5-14 are engaged in child labour.

Sources:
Central Statistical Agency. 2010. **Statistical Abstract of Ethiopia**. Addis Ababa, Ethiopia.
Central Statistical Agency. 2012. **Ethiopia Demographic and Health Survey**.

Ethiopia's environmental situation has been on the decline for some years. The country loses about 150,000ha of natural forest and woodlands each year due to firewood collection, conversion to farmland, overgrazing and the demand for wood for construction (MNRDEP, 1993). Some statistics suggest that Ethiopia has lost around 98 per cent of its forested land within the last 50 years. Resulting soil losses and erosion now place added

[2] "Returnees" refers to groups of Somali refugees who were resettled in areas such as Nagelle, Uudat and Moyale, a move that caused considerable problems due to questions of legitimacy of land claims.
[3] http://worldpopulationreview.com/countries/ethiopia-population/

stress on the agricultural sector which is the backbone of the economy: an estimated one billion tonnes of topsoil is lost each per year (Tefetro, 1999, quoted in MeKonen, 2002)

1.2 A HIGH DEPENDENCY ON AGRICULTURE AND PASTORALISM

The Ethiopian economy is heavily dependent on agriculture, which accounts for about 42 per cent of GDP[4]. Agricultural activities provide employment for some 85 per cent of the population and supplies 70 per cent of the raw material requirements of local industries. The livestock sector alone is reported to contribute 12-16 per cent of total GDP and 8 per cent of export earnings (Aboud et al, 2012). Exports are highly concentrated, with coffee alone accounting for more than 60 per cent of the total. Almost half of Ethiopia's land mass is arable, but only about 11 per cent is presently under cultivation[5]. Private economic activities in the Ethiopian manufacturing sector remain small, even by African standards.

To facilitate marketing of agricultural products, the government, in collaboration with UNDP, recently introduced the Ethiopian Commodity Exchange system with its own, separate regulatory body, the Agency for Commodity Exchange. This system is expected to benefit both the private sector and small farmers.

BOX 2. A PASTORALIST's PROBLEMS

In addition to coping with a harsh and increasingly unpredictable climate, pastoralists in Ethiopia are today experiencing a number of other pressures, including the:

- loss of productive assets – livestock and land, for example – due to drought, floods, disease and livestock theft;
- declining sustainability as livestock holdings decrease and the human population grows;
- declining livestock and agricultural productivity due to poor husbandry practices and technologies;
- environmental degradation and deterioration of natural resources to the point that production may decline below recovery levels;
- breakdown of traditional institutions and social relations;
- inability to access markets and achieve maximum prices for livestock products;
- low socio-economic empowerment of women and youth;
- geographical isolation in terms of infrastructure, communications and basic services; and
- increased livestock diseases in the area due to the lack of livestock health experts and services.

Pastoral communities in Ethiopia represent 10 per cent of the country's population: approximately 60 per cent of the land area is considered to be under pastoral production. Ethiopia's livestock are believed to comprise the largest herd in Africa and the 10th largest in the world.

The drier and hotter lowlands of the country are inhabited by pastoral populations comprising the whole of the Somali region (accounting for 57 per cent of the pastoralists in Ethiopia), the Afar region (26 per cent of pastoralists), and the Borena and Karrayu pastoralists which, together, account for about 10 per cent. The remaining seven per cent of Ethiopian pastoralists inhabit the lowlands of the Southern, Gambella and Beni Shangul regions (Yacob Arsano, 2000; Sanford and Habtu, 2000).

[4] http://www.mfa.gov.et/aboutethiopia.php?pg=3&page=2
[5] http://www.nationsencyclopedia.com/Africa/Ethiopia-Agriculture.html

Estimates suggest that 80 per cent of the populations are dependent on rain-fed agriculture for their livelihoods, exposing many people to the potential impacts of climatic-related events. Pastoralist communities in the south and east of the country, in particular, are vulnerable to the changing climatic patterns now being experienced.

The country also has a large population of semi-nomadic pastoralists (found in the lowland areas in the east and south of the country), estimated to account for 12-15 million people, i.e. 14-18 per cent of the total population (Adaptation Partnership, 2011; Ethiopia Country Report, 2012).

Pastoral production provides an immense contribution to the national economy by raising 40 per cent of the country's cattle, 75 per cent of its goats, 25 per cent of sheep, 20 per cent of equines and 100 per cent of the camels (Yacob Arsano, 2000). The total direct economic contribution of pastoralism to the economy (through the production of milk, meat, hides and other items) was estimated at more than US$1.5 billion (Berhanu and Feyera, 2009).

In the Borana zone alone, it is estimated[6] that more than 40 per cent of income is derived from the sale of livestock (ACSF-Oxfam, 2014): livestock exports from this region contribute significantly to national foreign exchange earnings. Agriculture, as a whole accounts for 90 per cent of foreign exchange earnings (Ethiopia Country Report, 2012).

The patterns of pastoralist mobility are, however, changing. Commercialisation of farming and changes in livestock ownership patterns are affecting access to land. Mobility is also complicated by international borders and cross-border policies that focus more on security than natural resource management.

1.3 THIS RISK ASSESSMENT REPORT

Ethiopia is a country prone to droughts, floods, landslides, pests, earthquakes, and urban and forest fires. The country's vulnerability to natural disasters is due to a number of factors including a high dependence on rain-fed agriculture, high livestock stocking rates, land degradation, increasing population pressure and a weak institutional framework.

The country is the second most populous in sub-Saharan Africa and one of the world's poorest countries. It has a long history of recurring droughts which, since the dramatic events experienced during the 1970s, have actually increased in magnitude, frequency, and impact. The most recent (2011) Horn of Africa drought left more than 4.5 million people in need of food assistance – this, in addition to the 7.5 million people who were already receiving food aid. Pasture failure and water shortages have, at the same time, caused massive livestock deaths in the south and south-eastern parts of the country.

Climate change studies show that vulnerability to cyclic hazards is increasing, especially among the poor, and that their livelihoods lack resilience. Moreover, due to climate change and human-induced factors, areas affected by drought and desertification in Ethiopia are actually expanding.

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semi-arid land (ASAL) regions of the country, with a specific focus on the Borana zone of Oromia.

2. A COUNTRY FAMILIAR WITH HAZARDS

2.1 BACKGROUND

Ethiopia experiences a wide range of natural hazards. In the last 30 years, drought, floods, outbreaks of human and animal disease, infestations of crop pests, landslides, earthquakes and wildfire have been experienced (Table 1), many of which have resulted in mass migration and forced movement.

Table 1. Major Disasters/Hazards Recorded in Ethiopia, 1980-2008

DISASTER/HAZARD TYPE	FREQUENCY
Drought	8
Epidemic	18
Flood	42
Insect infestation	4
Volcano	2
Mass movement, during wet season	2
Mass movement, during dry season	1
Wild/forest fire	1

Source: World Bank, GFDRR and ISDR. 2011.

Based on historical evidences, recurrent drought and floods remain the country's two leading hazards. The magnitude, frequency, area coverage, and impacts of droughts are now, however, more severe than in recent times.

2.2 RECENT DROUGHT EPISODES

The overwhelming natural hazard facing the southern lowlands of Ethiopia is that of drought, accounting for 98 per cent of fatalities (Cordaid/Farm Africa, 2013). Two main categories of drought risk areas are applied:

- high risk drought areas which include western and eastern Tigrai, all parts of Afar and Somali regions, the eastern Amhara region, South Omo of the SNNPR and the Borana zone of Oromia region; and
- medium drought risk areas that are central Tigrai, small areas in

BOX 3. IMPACTS OF DROUGHT

- Decreased pasture availability, leading to shortage of pasture, overgrazing and land degradation.
- Decreased water availability.
- Emaciation of livestock.
- Death of livestock.
- Decreased livestock productivity.
- Decreased resistance of livestock to disease.
- Decreased livestock prices.
- Reduced incomes.
- Women walking longer distances in search of water.
- Increased human diseases and death.
- Increased conflicts over natural resources.
- Crop failure.
- Food insecurity and malnutrition.
- Increased school drop-out rates due to migration.
- Interruption of development activities.
- Increased human diseases and death.
- Increased conflicts over natural resources.

central Wollo, most of northern Omo, the northern part of North Gondar, the Metema area, Gambella, most of Shewa, parts of east and west Hararghe, parts of Arsi and Bale, Sidama, Gedio and central Borana.

Since the catastrophic famine of 1983-1984, Ethiopia has endured at least six major droughts: from 1988-1989, 1999-2000, 2003, 2005, 2007-2008, and 2011-2012. Many of these droughts have affected the semi-arid and arid regions located in the eastern, southern and south-eastern lowlands, where pastoralism and agro-pastoralism remain the dominant forms of livelihoods.

Three of these events alone caused some 21 million people to become dependent on humanitarian relief aid (Table 2).

Table 2. Number of People Affected by Selected Droughts

YEAR	NUMBER OF PEOPLE AFFECTED
2003	12,600,000
2005	2,600,000
2008	6,000,000
Total	**21,200,000**

Source: World Bank, GFDRR and ISDR. 2009.

As the result of successive droughts, pastoral and agro-pastoral communities in the eastern and southern parts of the country have suffered considerable loss of livestock assets. The time between successive droughts has in many instances been too short for them to recover from the impacts of the earlier one. As a case in point, pastoralists and agro-pastoralists in Borana and the Somali region had not succeeded in recovering from the impacts of the 2008 drought before once again being impacted by the next drought event in 2011-2012.

The latter event affected the entire East Africa region, with some reports claiming this was "the worst in 60 years", threatening the livelihood of almost 10 million people (OCHA, 2011). Weather conditions over the Pacific Ocean, including an unusually strong La Niña, had interrupted seasonal rains for two consecutive seasons, leaving many vulnerable to this situation. In Borana, in particular, the then Borana Emergency Task Force reported that more than 400,000 people were receiving emergency relief aid. In addition to the human suffering of this event, more than 300,000 livestock were reported to have died.

2.3 FLOODING

In terms of its impact, flooding is the country's second major hazard. As with drought, flood disasters have shown a marked increase in both their frequency and coverage of affected areas (Muluneh Woldemariam , 2013). Major floods experienced in 1988, 1993, 1994, 1995, 1996, 2006 and 2012 caused significant loss of life and property.

Settlements and crop lands in lowland areas along the basins of major rivers such as the Awash, Wabe Shebelle and Omo Gibe river basins are highly vulnerable to flooding, which usually occurs following intense rainfall in the highlands. Annual flooding is also experienced in urban areas, notably in Addis Ababa and Dire Dawa, causing property damage. Incidents of flash floods are reportedly common in most parts of the country, especially when rain occurs following prolonged dry seasons. In addition to potential damage to property and

lives, this feature could also represent opportunities for the development of water-borne diseases.

Recorded flood disasters between 1999 and 2007 affected over 1.1 million people, as shown in Table 3.

Table 3. Number of People Affected by Selected Flood Disasters

DATE	NUMBER OF PEOPLE AFFECTED
October 1999 (two flood disasters)	124,000
April 2003	110,000
April 2005	235,418
August 2006	38,000
October 2006	361,600
July 2007	239,586
Total	**1,108,604**

Source: World Bank, GFDRR and ISDR. 2011.

3. THE BORANA ZONE

3.1 CONTEXT

Borana is one of 13 Zones of the Oromia Regional State, located at the southern edge of the country (Figures 4 and 5). The zone is in turn made up of 13 *woreda*/districts, divided between two agro-ecological zones – the semi-arid lowlands to the south and the more humid lands at higher altitudes to the north. It is bordered on the south by Kenya, on the west by the Southern Nations, Nationalities, and Peoples Regional State, on the north by the Guji zone and on the east by the Somali region.

Figure 4. The Borana Zone, Ethiopia

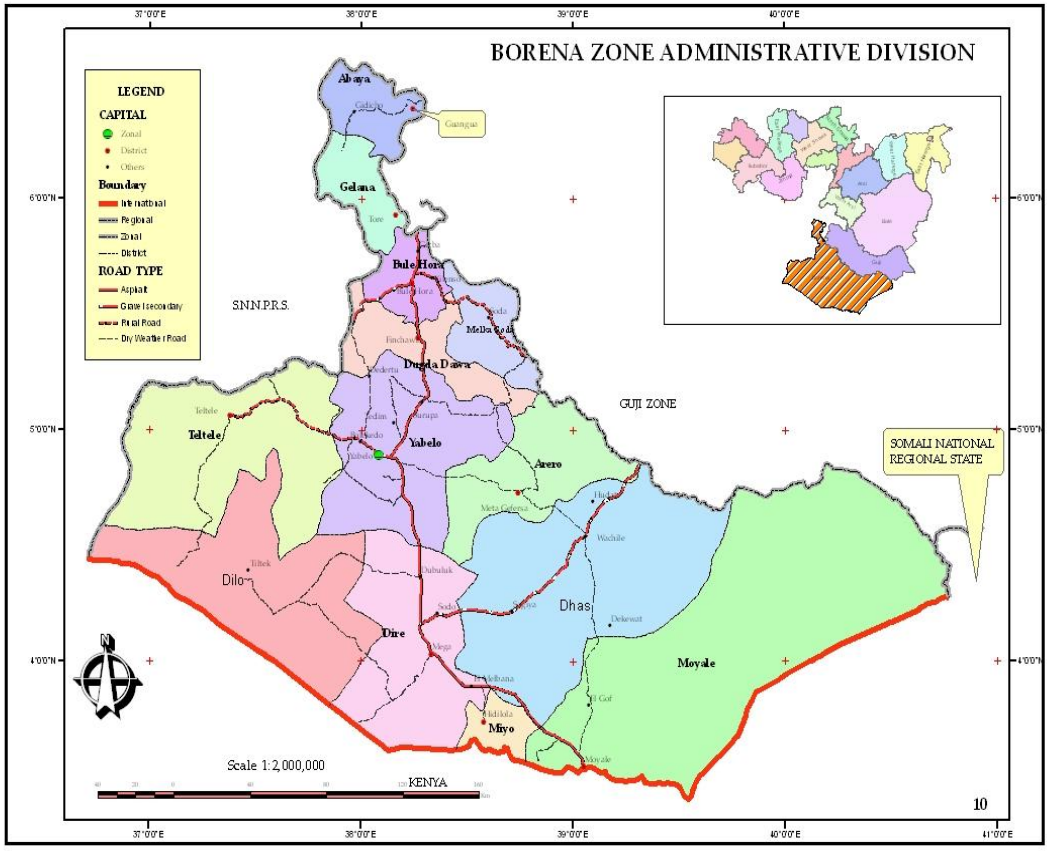
The Borana zone covers a total area of 48,743km^2, an area larger than Switzerland, with an average altitude of 1,500m above sea level. It is an arid and semi-arid area, with pockets of sub-humid zones. Rangelands are dominated by tropical savannah vegetation with varying proportions of open grasslands and perennial woody vegetation. Perennial rivers in the area include the Dawa, Afilata, and Segen rivers.

The Borana administrative zone has a current projected population of 1,178,690[7] people, of which 596,568 (51 per cent) and 582,122 (49 per cent) are male and female, respectively. An estimated 90 per cent of the population are classified as rural. The four largest ethnic groups are the Oromo (77 per cent), Gedeo (13 per cent), Amhara (3 per cent) and the Somali (3 per cent).

For the majority of inhabitants, pastoralism is the major source of livelihood. Data obtained from FEDO estimates the total livestock population in 2012 at some 4.7 million, of which cattle, goats and sheep constitute about 51 per cent, 29 per cent and 12 per cent, respectively. As the result of past political, social and economic marginalisation, basic social services such as education, health, water, roads and communication infrastructure are still underdeveloped. For example, coverage of safe drinking water was estimated in 2012 at 70 per cent, far below the national average. An estimated 53 per cent of eligible children are enrolled in primary school and 9 per cent attend secondary school. Thirty-five per cent of the Borana zone is exposed to malaria (World Bank, 2004; World Bank, 2003; Deninger et al., 2003).

Approximately 14 per cent of the population is involved in non-farm related income-generating activities, almost half that of the national average of 25 per cent.

Figure 5. Borana Administrative Divisions



Environmental degradation and the depletion of natural resources caused by cyclic drought

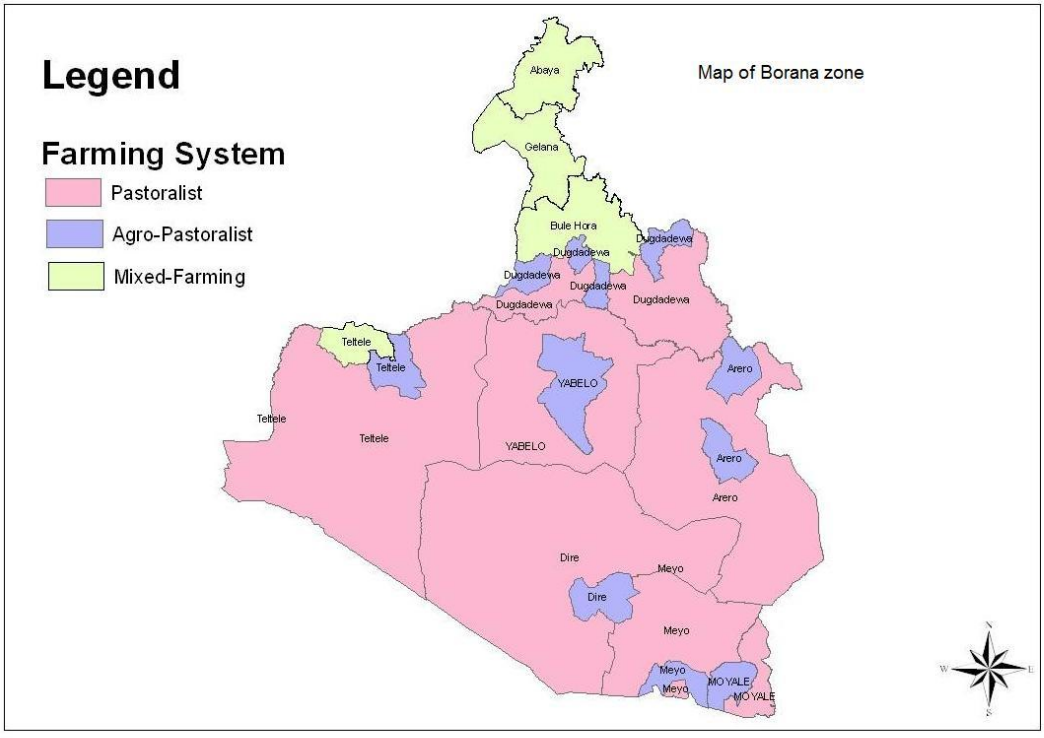
[7]Population figure projected for 2015 on the basis of the 2007 Population and Housing Census of the Central Statistical Authority.

have become major problems that challenge the livelihoods of pastoral and agro-pastoral communities. Deterioration of productive assets, low crop productivity or crop failure, and the prevalence of acute and chronic food and water shortages are clear manifestations of environmental degradation and the depletion of natural resources. Weak local disaster risk reduction capacities can be expected to further aggravate the impacts drought caused on human lives and livelihoods. Figure 8 shows the predominant land use patterns for the zone.

Zonal government food security task forces usually respond to disasters by co-ordinating emergency support through humanitarian agencies operating in the area. There are, as yet, no efficient and effective preparedness systems in place both at community and government level. No effective strategies have been designed to link with development and/or livelihood interventions to prevent the occurrence of disasters or minimise their effects.

While the Borans are largely pastoralists[8] a series of household surveys in 2011 showed the vast majority (96 per cent) also produce some crops, with 39 per cent of these also engaging in selling crops (Desta et al, 2011). The same enquiry found that only five per cent of households owned no cattle. The majority of households had relatively small herds of cattle (less than 20 head) as well as small ruminants and/or chickens. Camels are owned by around 30 per cent of households.

Figure 6. Borana Zone Depicted by District and Farming Systems (Desta et al, 2011)



In terms of markets and economics, roughly two-thirds of households sell cattle, and 70 per cent sell smaller livestock (Desta et al, 2011). A large number of households (79 per cent)

[8] High quality animals are also provided from the zone to highland areas for traction power and as a genetic base for breeding (CORDAID and FSS, 2009). Particular note should be made to the Borena breed of cattle and black head Wanki sheep.

also produce and consume milk or other livestock products, and 40 per cent sell livestock products. Off-farm livelihood sources are limited, with 13 per cent of households producing/ harvesting food crops. Almost two-thirds obtain fodder from off-farm sources. All households also gather fuelwood from locations away from the land they own.

Income diversification strategies are limited: just one-quarter of households produce four, or fewer, different types of agricultural products, with about half of these selling just one or two products (Desta et al, 2011). Fourteen per cent of households obtained no cash income from agriculture or livestock. Common crops grown are maize, teff, sorghum and haricot beans.

3.2 LAND USE POLICY AND ITS IMPACTS ON THE BORANA PASTORAL COMMUNITY

Climatic variability notwithstanding, through mobility, herder communities in arid environments implement common property resource tenure to permit extensive grazing and ensure access to seasonally variable resources (McCabe, 2004). Despite the variable frequency and extent of mobility (see Box 6), the most common practice is that families and herds are separated into different zones with various seasonal resources, according to the different needs of grazers and browsers. Such mechanisms enable pastoral production to continue in highly unpredictable ecological conditions (Torry, 1973).

Increasingly, however, pastoralist communities are becoming unable to harness the true potential of these lands due to internal and external pressures related to land tenure and use. This is because the policies that relate to the access and use of pastoral lands do not adequately promote pastoral rights. Today, crop cultivation is fast expanding in the rangelands and resource tenure is moving towards *de facto* individualisation by pastoralists and private investors (Tache, 2000)

Pastoralists continuously faces the impact of external and internal pressures, leading to a decline in the resource base, a breakdown in key production strategies and overall livelihood insecurity (Markakis 1994; Bonfiglioli, 1992). With the advent of colonialism, private tenure rights emerged in different pastoral regions of Africa, giving rise to different types of land use that directly competed with extensive grazing. Consequently, the processes of resource base decline and tenure insecurity were put in motion. In the Horn of Africa, the colonial land policy continued unchanged in the post-colonial era, further affecting pastoral land uses and exposing pastoralists to a range of unfavourable conditions and situations.

Despite decades of continued pastoral research and a supposed improvement in understanding the pastoral rationale in resource management, policy-makers and planners still tend to justify policies for tenure reform, land privatisation, the registration of title deeds, formal land use planning and livestock controls (Roe, 1991). Such policies do not, however, provide pastoralists with protection against land alienation (Lane and Moorhead, 1995).

3.3 CLIMATE INFLUENCE

3.3.1 Rainfall Patterns

The southern lowland areas of Ethiopia receive an annual rainfall of 300-450mm per annum. While highland areas receive the majority of its annual rainfall during the months of mid-

June to mid-September, the south receives the majority of the rainfall during March and May, in what is locally known as the *Gaana* (also referred to as *Ganna*) rains.

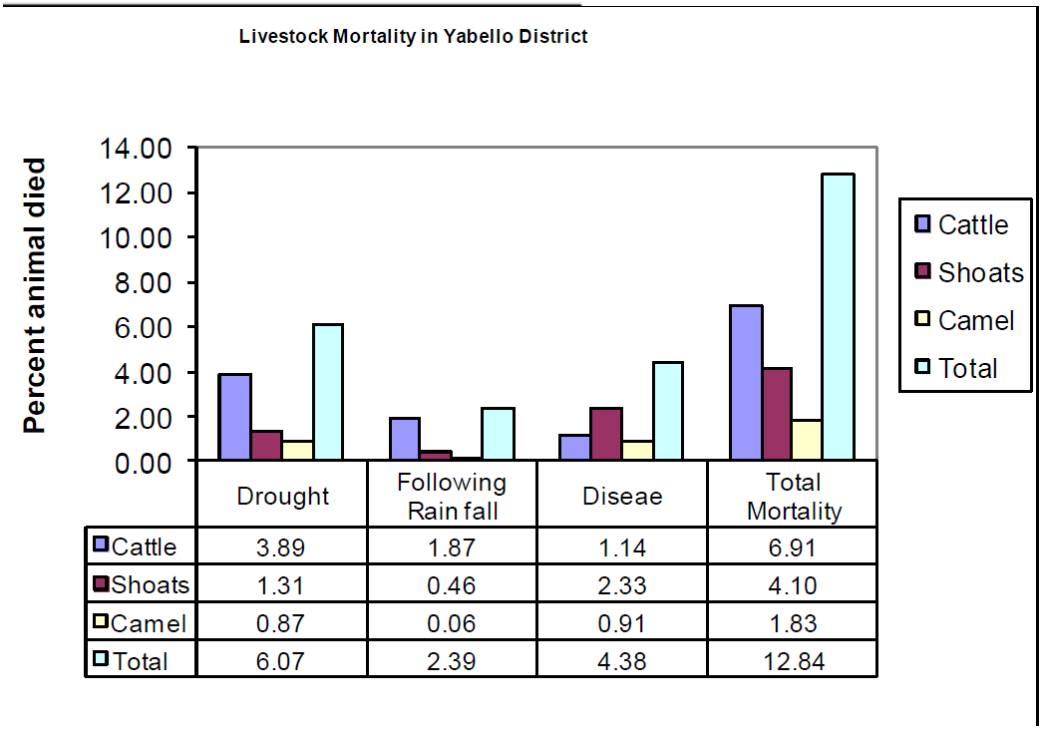
The *Gaana* rains account for 65 per cent of the total rainfall in the Borana zone region. Pastoralists rely heavily on these rains to regenerate vegetation following the dry season of December to January.

These rains, however, are typified by their unpredictability – both in volume and timing. In the southern regions of the country, it has been observed that from 1971 to 2011 there has been a general decline in rainfall by 14 per cent. Some climate change models suggest that average temperatures will continue to increase and that rainfall will be further characterised by its unpredictability. In recent years in Borana, the *Gaana* rains have been reported as being shorter, but heavier than in past decades. The increasingly lower than average rainfall, combined with its unpredictable nature poses a considerable hazard to both pastoralist and rural farming communities in the region.

3.3.2 The Impact of Drought in the Borana Zone

Revenue from livestock sales in Borana underlines the sheer importance of this sector to pastoralist communities. Recent droughts, however, have had significant impacts in this zone (see Table 2). Droughts in the 1980s and 1990s resulted in the deaths of 37-42 per cent of all cattle, respectively. Over a period of 17 years, losses in the form of cattle mortality in Borana were valued at some US$300 million (Desta and Coppock, 2000). Taking the 2011 drought as an example, the Food and Agriculture Organisation (FAO) estimates that the death rate of cattle, sheep and goats was 60 per cent, 40 per cent and 25-30 per cent (an average of 27 per cent), respectively (OCHA, 2011).

Figure 7. Impacts of the 2010-2011 Drought Situation in Yabello District



	Drought	Following Rain fall	Diseae	Total Mortality
Cattle	3.89	1.87	1.14	6.91
Shoats	1.31	0.46	2.33	4.10
Camel	0.87	0.06	0.91	1.83
Total	6.07	2.39	4.38	12.84

Source: Abebe, D and Admassu, B. 2011.

In 2014, late rains and flooding in Abaya and Gelana *woredas* damaged crops and property. Milk production levels were below normal as pasture and water availability had declined in lowland areas including Guji zone and, particularly, in Dillo, Dire, Miyo and Moyale *woredas* of the Borana zone[9].

Table 4, while not exhaustive, highlights some of the many ways in which drought poses a major threat to pastoralism and rain-fed agriculture in Borana. As well as causing depletion/degradation to the natural resource base (rangeland pasture, water resources and maladaptive human practices in response to drought), drought has much wider implications on the region's financial resources, education, health/levels of malnutrition, labour migration and livelihoods.

Table 4. Notable Impacts of Drought on Pastoralist Communities

ECOSYSTEM INTEGRITY	LIVELIHOODS	SOCIAL
• Deforestation • Land degradation • Water shortages • Overgrazing • Bush encroachment	• Shortage of pasture • Decreased livestock productivity • Decreased livestock resistance to disease • Increased livestock mortality • Crop failure • Food insecurity/ malnutrition • Interruption of development activities • Poor access to veterinary service and agricultural inputs (e.g., early maturing crop seeds) • Lack of veterinary drugs	• Low livestock prices • Reduced incomes • Increased poverty • Increased school drop-out • Increased human disease / mortality • Inadequate access to health services • Abnormal community mobility • Increased resource-based conflict • High population growth

Adapted from: Climate Change Impacts on Borana Pastoralist Communities.

In terms of environmental degradation, recurrent drought, combined with a ban on fire, has brought about an increase in bush encroachment of mainly native species. This, however, in turn has caused a significant depletion of available range/pasture resources in some areas. Some studies suggest that bush encroachment has affected 52 per cent of the rangelands in Borana (OWWDSE, 2010).

3.3.3 Addressing Vulnerability

Pastoralists and agro-pastoralists in Borana are clearly at the mercy of climate vagaries, primarily drought and excessive rainfall. Conflict too needs to be considered as this can be a

[9]Humanitarian Requirements 2015. Joint Government and Humanitarian Partners' Document.

significant factor that exacerbates the effects of drought through, for example, limiting mobility.

Historically, pastoralist communities have occupied the ASALs throughout the region. Drought events are an accepted part of life and in the past pastoralists developed mechanisms to cope with, or at least mitigate their effects. This was achieved through natural asset management and drought mitigation measures using traditional early warning systems, land use planning and resource management strategies. The gradual decline of assets – in particular social capital and social responsibility caused by the erosion of traditional institutions, rights and roles for self-governance and decision-making – and the replacement of these institutions by state-governed administrative systems have now, however, made pastoralists even more vulnerable to drought-induced disaster (CordAid and Farm Africa, 2013).

Additional factors that have increased the vulnerability of pastoralist communities include:

- declining sustainability of the pastoral way of life, as livestock holdings decrease for the poorer households, and the human population grows;
- reduced rangelands due to overgrazing, private pasture enclosure, and tighter boundary controls as well as sale of enclosed lands for a range of uses such as settled agricultural, reserves and conservancy. Wealthier pastoralists with larger herds control more land for commercialised pastoralism;
- declining livestock and agricultural productivity due to low investment, poor husbandry practices and technologies (despite a growing livestock export trade);
- environmental degradation and deterioration of natural resources to the point that production may decline below recovery levels;
- increasing bush encroachment reducing rangeland pasture;
- loss of productive assets (livestock/farming/irrigated land) due to drought, floods, disease and livestock theft (during conflict), particularly for poorer households;
- breakdown of traditional institutions and social relations as migration patterns change;
- limited access to markets for selling animals and negative term of trade for pastoralists;
- low socio-economic empowerment of women and youth;
- geographic isolation in terms of infrastructure, communications and basic services;
- increasing impoverishment of some communities and more vulnerable households[10]; and
- lack of alternative sources of income or employment opportunity.

Table 5. Ranking of Shocks and Stressors: Comparison of Pastoral And Agro-pastoral Reflections, Borana Zone

PASTORAL (SHOCKS)	RANK	AGRO-PASTORAL (SHOCKS)
Conflict	1	Drought
Drought	2	Deforestation
Animal diseases	3	Land degradation
Human disease	4	Animal disease
Bush encroachment	5	Human disease
	6	Conflict
	7	Pest infestation

Source: Focus group discussions 2009, Dire Woreda and Dhas Woreda, Borana zone

Interviews with pastoralist communities suggest that the frequency of drought events, combined with the exacerbating factors mentioned above, have significantly increased their vulnerability to drought. It can, for example, take more than five years for some pastoralist families to recover from a drought episode. The increased frequency of drought events in recent times suggests that their ability to recover from each drought event has been significantly eroded.

Box 4 provides an overview of some recorded good examples of DRR/CCA in the Borana context.

BOX 4. FEATURES OF GOOD DRR/CCA PRACTICE IN BORANA

There are a number of examples of good DRR/CCA practices in projects in Ethiopia. Some of the commonalities of these projects are highlighted below.

- ✓ **Strengthening existing relationships between local government, customary institutional leaders and community members** is essential in order to foster a greater respect, understanding and utilisation of the wealth of knowledge and skills possessed by the community and its institutions.
- ✓ **Reducing development deficits** through appropriate seasonal mobility and improved access to nutritious pasture, water sources, and forest areas facilitate increases in wealth, livestock health and food security.
- ✓ **Implementation of new and improved livelihood and rangeland management practices** increasing knowledge and capacity skill sets leading to improved livelihood outcomes, land productivity and biodiversity management.
- ✓ **Community openness to test indigenous knowledge systems** with external relevant information-bases supporting learning-by-doing approaches – provides for more robust projects in strengthening transformative resilience.
- ✓ **Awareness of, access to and integration of weather and seasonal forecasts** in planning and decision-making processes at community and local institutional level**.**
- ✓ **Projects promoting a shift from seasonal planning to more forward-thinking longer-term foresight**, including community perceptions of increased ability to cope with and adapt to future drought conditions.
- ✓ **Increased female inclusiveness in decision-making processes**, including women empowerment with perceived ownership of and right to rangeland and natural resources coupled with shift in male mind-set on cultural role and value of women.
- ✓ **Responding to the needs of the climate vulnerable and poor** through an inclusive community approach respecting pastoralist traditions, including benefit sharing mechanisms, resulting in reduced livelihood vulnerability and improved coping capacity.
- ✓ **Participatory rangeland management** approaches ensures legal land tenure and access to resources of given communities – such models exist in Ethiopia and has been piloted in the Bale zone of Oromia region by FARM Africa and SOS Sahel Ethiopia.
- ✓ In conflict-affected areas, such as Borana, **mainstreaming community-led conflict resolution is a significant feature of increasing mobility, thus resilience**. Peace building activities to reduce conflict over natural resources and hence support mobility can significantly support resilience.
- ✓ Projects including **collaborative components of DRR/CCA that feed into *Woreda* contingency planning help to improve its service to the community**.
- ✓ **Livelihood interventions should focus on protecting assets** as a means of building resilience.

In 2011, participatory disaster risk assessments conducted in Dillo and Dugda Dawa *woredas* identified drought, livestock and human diseases, conflict and crop diseases (including pest

infestation) as the major local hazards. Children, the elderly people, and women were among the vulnerable groups who severely suffered the impacts of drought. This assessment involved both pastoral and agro-pastoral communities, for which drought was the first natural hazard that affects their lives and livelihood. For pastoralists in Dillo, cross border conflict was another important hazard that caused loss of life and property. Resource-based conflicts are frequent hazards in Arero and Moyale *woredas*.

Persistent inter-ethnic conflicts over natural resources – primarily rangeland and water – have significantly affected traditional coping strategies for pastoralists in Borana. These conflicts are mainly resource use or ownership related. Resource competition arises in connection to access to land and its resource. One of the key issues is the definition of tribal boundaries and land tenure, both of which remain unresolved.

Major types of land use conflicts identified in the area are inter-ethnic and intra-ethnic on the one hand, and occupation based (between pastoralists and agro-pastoralists) on the other. The main causes of these conflicts include usage of resources (water points and grazing lands), land ownership and regional or territorial expansion. Most pastoral communities have strong social and kinship cohesions and hence, in essence, are collective societies. Thus, any wrong doing against a kin is considered as an attack against the whole clan/group of people, whatever the original cause may be. This usually leads to collective assault/conflict of the clans/ethnic groups concerned.

The vulnerability of some pastoralists to territorial conflicts could, however, also be attributed to geographical location, mostly in the frontier areas and due to their way of life i.e. the necessity of mobility to be in the realm of pastoralism (OWWDSE, 2010). Possible strategies to address this underlying concern are shown in Box 5.

BOX 5. POTENTIAL STRATEGIES OR DEVELOPMENT INTERVENTIONS AS CONFLICT PREVENTION METHODS

- Develop water and range resources at strategic locations to reduce resource competition (but without creating a "draw factor".
- Provide pastoralists with improved animal husbandry techniques and more productive breeds – in balance with carrying capacities and coping limits.
- Promote and enable means of income diversification.
- Strengthen and support indigenous conflict resolution mechanisms.

3.3.4 Traditional Coping Systems and Mechanisms

Recurrent drought, increasing population pressure and resulting food security have made people in many parts of Borana highly impoverished. As a coping mechanism, the poor are engaging in opportunistic cultivation, a practice seen increasingly in lowland pastoralist areas such as Miyo, Dire and Yabello *woredas*.

Traditional structures of governance and assistance such as those described above cannot effectively protect the poor as they once might, with the result that the poor are from time to time left to fend for themselves. Sometimes this results in a direct or indirect breach of what were formerly respected rules of the *Gada* institution.

In this way, increasing poverty is undermining traditional mechanisms of risk distribution within the Borana society. Traditionally, the poor would petition the wealthy to redistribute cattle at dozens of annual clan meetings. Such meetings are still held but the enormity of the needs has limited the possibilities for redistribution. Because of recurrent drought, the number of cattle in the area has also been in decline, rendering most pastoralists to be less well of which again further weakening the traditional risk distribution systems.

The role of the *Gada* system (see Section 5.2), which governs the use of natural resources – among other aspects of pastoral life – has been significantly eroded in the past decade. Among the reasons for this has been mass immigration (with people not respecting traditional structures), political marginalisation and land privatisation, all of which have acted to fragment rangelands and reduce mobility (Save the Children and CARE International, 2009).

Some pastoralists report that the *Gada* system still works well during periods of good rains, but becomes weakened during drought as members of the *Gada* are overwhelmed by the myriad of crises it faces. This is further exacerbated in the case of *Gada* members themselves being forced to migrate in search of paid work.

Aside from the *Gada*, there are a number of traditional support mechanisms among the pastoralist community of Borana through which the redistribution of assets might be carried out following drought and other disasters. Two are of particular importance, these being:

- *busa-gonofa*, which concerns the re-stocking of hazard-affected households; and
- *dabare*, which involves the temporary lending of milk-producing cows to those worst affected families.

These traditional, community self-help systems, while having been effective in the past are now struggling to provide the levels of support required given, in particular, the frequency of drought events and the number of households in need of support.

BOX 6. MOBILITY – A FUNDAMENTAL KEY TO SURVIVAL

The Borana pastoralists move from one place to another when drought-induced disaster hits. Two types of mobility are practised:

Regular mobility – *Godaanssa Fooraa* – in which certain family members (most often male adults, excluding the elderly) move with their livestock from their permanent settlement to other neighbouring communities in search of pasture and water. Villagers send an advance team called "*aburu*", or scouts to identify suitable locations in terms of availability of pasture and water, to assess the carrying capacity of the rangeland (so as to estimate the duration of stay, to identify any livestock diseases in the area and to establish the willingness of the hosting community to share resources.

This process also considers the capacity of the animals to travel the anticipated distance, the available resource at the homestead and the milk requirement of the people who remain at the semi-permanent settlement areas.

Drought year mobility – *Godaansa Warraguda* – which is the movement of a family and whole herds to permanent water sources such as traditional wells ("*tulla saglan*"), as found in different parts of the Borana zone. "*Tulla*" areas are mostly protected from cultivation (not used for agricultural production), and the pasture is said to be able to accommodate many herds for quite some times without any irreversible environmental impacts, or degradation.

Herd mobility continues as water and grazing cannot be found at a certain place throughout a year. Mobility reduces overgrazing and soil degradation. Another important reason is that animals require changes of places to gain weight conceive and grow properly. Movement to lowland areas is important for this purpose

In addition, traditional grazing lands reserves are also being squeezed due to opportunistic agricultural expansion. There is no defined or clear demarcation between farmland and

grazing land: while the latter is more or less managed through the traditional mechanisms and rules, farm plots are allocated and administered by the *kebele* administration. Though the *kebele* administrator may comply with the *Gada* rules of rangeland management, he/she is not legally obliged to enforce and protect the right of the users. Furthermore, the *kebele* administration is structured in such a way that it will function similar to those in sedentary areas. Thus, traditional rangeland and water source management has no legal backing. As a case in point is seen in the high land areas of the zone where the Guji Oromos are the predominant group, practicing mixed farming as their main livelihood form. Here, the *Gada* institution plays no significant role in resource management, except the undertaking of cultural and ritual activities.

In response to drought and the support of DRR/CCA interventions, some agencies have started to create new community-based committees at the *Kebele* level as well as transboundary committees. With the support of some NGOs, many *kebeles* in Dillo, Arero, Dhas, and Dugda Dawa have established community organisations (COs) such as Community Managed Disaster Risk Reduction Committees (CMDRRCs), Rangeland Management Committees (RMCs) and Early Warning Committees (EWCs). In those *kebeles* where such COs are now established, the CMDRRCs are supposed to act as umbrella organisations of their respective *kebeles* under which other smaller committees such as RMCs, EWCs and WMCs are subsumed.

In principle, the CMDRRC of each *kebele* is the highest entity responsible for identifying development needs of that *kebele*, mobilising internal and external resources and engaging the wider community in development endeavours. In doing so, the CMDRRC is expected to play a key role in building drought resilient community.

Such committees, however, in their own way now pose a threat to the *Gada* system and can act to undermine its importance within society. Reasons for this include the fact that:

- committees, particularly RMCs, prefer to act alone instead of engaging the *Gada* system, particularly with regards the management of water and range resources;
- the majority of committee members are also members of the *kebele* council and are thus busy with executing other tasks of the government;
- committee members lack commitment;
- committees lack resources to address or overcome certain poorly planned and executed development interventions such as past water development projects and the promotion of semi-permanent settlements in some lowland areas; and
- committees have no legal support to limit expansion of agricultural activities and illegal settlements in the rangelands.

While most such committees have clearly defined roles and responsibilities and are required to work in collaboration with traditional institutions, they have failed, for example, to regulate the settlement pattern and enforce traditional rangeland management rules and regulations. Contrary to the *Gada* system, these community-based committees likely enjoy the support of the *kebele* administration; hence they can be used as a bridge that connects the traditional system with the formal/conventional structure.

3.3.5 Pastoralist Coping Practices

Complex pastoralist management systems have evolved from peoples' successful adaptation to living in the harsh and unpredictable conditions of aid and semi-arid lands.

Despite this, pastoralists and agro-pastoralists in the Borana zone are today facing a series of social, economic and environmental challenges. The natural resources on which they have traditionally depended are under increasing pressure: grasslands are suffering from bush encroachment, agriculture is expanding in spite of the high risk of inadequate rainfall and forests are being rapidly degraded. Increasing numbers of people have started to abandon the practice of pastoralism as they become less able to cope with the impacts of drought. These people tend to move into or around urban centres, in the hope of finding new sources of livelihood.

Certain maladaptive policies have also contributed to this situation of declining natural resources and livelihoods, including:

- inappropriate development policies for pastoral areas, including land tenure and agricultural development policies;
- an absence of extension services by government for pastoralists; and
- policies that give priority to farming or crop cultivation.

During times of drought, pastoralist communities adopt one or a series of coping strategies. While some strategies may be positive, such as increasing the household asset base, others are considered negative in that they result in a reduction of the household asset base. Table 6 considers typical coping mechanisms witnessed in the Borana zone.

Table 6. Coping Strategies Identified in the Borana Zone

TYPE	RESPONSE STRATEGY	WEALTH GROUP	EFFECT
'Negative' (depleting assets)	Increased labour migration	Poor middle	• Disruption in community dynamics • Reduction in household labour force, leading to a decline in ability to focus on household's own activities
	Increased sale of livestock	Poor Middle Better Off	• Reduction in household asset base from which to draw in the event of future shock • Less potential to exploit opportunities to sell livestock products such as milk, yoghurt, cheese. Inability to optimise profit • Forced to accept lower prices
	Increase livestock migration (travel longer distance for longer periods of time)	Poor Middle	• Disruption in community dynamics • Increased competition for limited grazing may result in heightened tension between clans/ethnic groups. Livestock become weak due to distances required to travel
	Increase sale of charcoal and firewood	Poor	• Environmental degradation • Increased erosion and run-off
	Change in food consumption patterns – reduction in frequency and quality of food intake	Poor	• Increase susceptibility to disease and potential malnutrition • Reduction in energy levels, resulting in lower productivity
'Positive' (establish or increase household assets)	Increase in kallo formation (preservation of pasture)	All	• Community cohesion strengthened through participation of all to form kallo • Enables regeneration of pasture • Pasture protected for future
	Harro (pond) creation/ water harvesting	All	• Households have access to water for specific activities (eg vegetable gardening)
	Planting short maturing crop varieties	All	• Increased potential to gain at least some harvest
	Increase in petty trade activities	Poor	• Increased income generated
	Increase in sales of gum Arabic and incense	Poor	• Increased income generated
	Vegetable farming		• Counter-seasonal source of food and income

Source: A-Z Consult, 2009

Ongoing and future interventions in this zone should aim to strengthen the positive coping mechanisms in addition to finding additional alternatives that discourage those increasingly maladaptive coping responses.

3.3.6 Factors Enhancing Resilience

Several development initiatives hold the promise of assisting pastoral households and communities to plan for, cope with, and recover from frequent shocks. These are among the most important:

- *drought cycle management:* Having a specific feasible plan with triggers, responses, and multiple dimensions is preferable to launching an appeal for external assistance after a crisis hits. DRM contingency planning is the responsibility of each *woreda*. Their capacity and transparency in the use of funds appears to vary considerably, according to CARE's support for *woreda*-led contingency planning.
- *increased mobility:* Access to key pasture/water sources during times of drought if crucial for pastoral communities. In Borana, inter-ethnic conflicts over natural resources have been reported by some pastoralists to be more significant than drought as a driver of poverty. Community-led initiatives to increase access to key resources would alleviate pressure on pastoralist communities during times of drought. Peace-building initiatives can support increased mobility and such initiatives should be considered to be an integral component of DRR/CCA projects where conflicts are identified Mercy Corps, 2012).
- *Safety nets:* Safety nets in pastoral areas reflect a worldwide movement towards social protection for vulnerable populations. Two kinds of nets are needed: a safety net to prevent households from falling into poverty and a cargo net to support communities to strengthen their resilience. The government-led PNSP provides cash / food for work.
- *Asset and livelihood diversification:* Livestock and livestock-rearing are the key to livelihoods in pastoral areas and will remain so. As populations grow, however, there will be an increasing need to build alternative livelihood strategies around livestock production and trade in dryland areas. This transition needs to be guided, inasmuch as desperation-driven diversification strategies (fuelwood harvesting and charcoal production) can undermine the livestock production system rather than enhance it.
- *The management of "critical patches" of high ecological diversity during dry season / drought*: Such areas of land provide improved nutrition and water for livestock – particularly when regular grazing areas are seasonally depleted.
- *Markets and food security:* pastoralists need to maintain essential linkages between markets for both the sale of livestock and the purchase of grains and other food-stuffs. In times of drought/stress, herders are likely to sell livestock which often results in lower prices as the market becomes flooded and can, in drought cases, be accompanied by high grain prices.
- *Strengthened community-based natural resource management*: lead to greater sustainable land use and thus improve resilience. This is particularly important where such CBNRM initiatives (be it within the *Gada* system or externally) feed into the DRM contingency planning process at the *woreda* level.
- *Effective governance and local empowerment*: act to mitigate issues of land alienation, security, access to services and infrastructure[11].
- *Scaling up index-linked insurance initiatives*: Such initiatives have existed in Ethiopia since 2009. The "R4" initiative (formerly known as the Horn of Africa Risk Transfer for Adaptation project, developed by Oxfam America, the Relief Society of Tigray, Ethiopian farmers and several national and global partners provides index-linked insurance as part

[11] FAO Ethiopia country pasture/forage resource profiles.

of a broader resilience building effort (including risk reduction, risk reserves, risk transfer (the insurance component) and risk taking (micro-credit). The initiative was established to provide an insurance product to poor smallholder farmers who were considered uninsurable (due to a number of factors including literacy, remoteness and poor communication). Under the scheme, farmers have the option of directly paying premiums or by entering the government's Productive Safety Net Programme that incorporates Insurance for Work. While the R4 initiative focuses on farmers, rather than pastoralists it has relevance in Borana due to the innovation in its design, its holistic nature and due to the fact that smallholder farming is a feature of the zone.

In 2010, the International Livestock Research Institute (ILRI) first introduced its Index-based Livelihood Insurance (ILBI) in northern Kenya. Its aims include stabilising assets, increasing economic growth and keep livestock keepers from falling into the poverty trap. In 2012, the ILBI initiative was introduced into Borana. The index is based on livestock mortality and the Normalised Difference Vegetation Index, which correlates with pasture availability. ILBI has worked extensively with pastoralists to ensure that the packages offered are culturally and socially appropriate. Accommodating customer feedback is considered to be an important factor in the relative success of the initiative.

The above examples of index-based insurance aimed at enhancing vulnerability share commonalities with others in the developing world, namely they:

- increase farmers' income;
- are integrated into holistic development programmes;
- feature farmer-driven design;
- build both trust and capacity;
- develop markets, supply chains and logistical support systems; and
- are based on solid science, technology and basis risk (CGIAR, 2015).

Table 7. Examples of Activities Undertaken in 10 *Kebeles* in Borana Zone, 2014

Bush Clearing	Food Aid	Pond construction
Well construction	Restocking	Savings and Credit
Health	Conservation	Livestock
Training	WASH	Education
Road construction	Destocking	

Source: ACSF-Oxfam, 2014.

4. NATIONAL POLICIES AND STRATEGIES ON DISASTER RISK MANAGEMENT

4.1 OVERVIEW

No organised disaster management institution existed in Ethiopia prior to the 1973 famine which severely impacted the northern part of the country. Following this event, the government established the Relief and Rehabilitation Commission (RRC) with a mandate to provide relief assistance to drought-affected people in Wollo and Tigray. The RRC was restructured in 1978, merged with the Settlement and Awash Valley Development Authorities and given a new mandate of relief and rehabilitation, including settlement programmes.

BOX 7. VISION FOR DISASTER RISK MANAGEMENT

The long term vision of DRM policy and strategy is to see capacity for withstanding the impacts of hazards and related disasters built at national, local, community, household and individual levels, and damages caused by disasters significantly reduced by 2023.

The general objective is to reduce disaster risk and potential damage caused by a disaster through establishing a compressive and co-ordinated disaster risk management system in the context of sustainable development, with the specific objectives of:

- reducing and eventually preventing disaster risk and vulnerability that pose challenges to development through enhancing the culture of integrating disaster risk reduction into development plans and programmes, as well as by focusing on and implementing activities to be carried out before, during, and after the disaster period to address underlying factors of recurrent disasters;
- in times of disasters, saving lives, protecting livelihoods, and ensuring all disaster-affected populations are provided with recovery;
- reducing dependency on, and expectation for, relief aid by bringing attitudinal change and building the resilience of vulnerable people; and
- ensuring that DRM is mainstreamed into development plans and programmes across all sectors and institutions, and implemented at all levels.

Following the ratification of a National Policy on Disaster Prevention and Preparedness Management (NPDPM) in 1993, the government once again restructured the RRC in 1995 to establish the Disaster Prevention and Preparedness Commission (DPPC).

Ratification of this policy resulted in a fundamental shift in thinking to closely link the relief and development agendas, which became the new mandate of the DPPC. Key sector offices, such as the Ministries of Agriculture and Rural Development, Health and Water Resources, also became more involved in disaster management since 2003, through the establishment of emergency sectoral task forces.

Shortly thereafter, however, in 2004, the DPPC was split into the Disaster Prevention and Preparedness Agency (DPPA) and the Food Security Co-ordination Bureau (FSCB) with the DPPA being given a restricted focus on emergency response only. Unlike the DPPC, the DPPA was no longer responsible for addressing the underlying causes of disasters and was responsible only for providing to emergency relief. While this structure has been quite effective in saving lives, its contribution to reduce vulnerability to disaster and disaster risks as well as poverty reduction efforts has remained low. In response, in 2008, the government created a new structure under the Ministry of Agriculture (MOA – formerly the Ministry of Agriculture and Rural Development) called the **Disaster Risk Management and Food Security Section** (DRMFSS).

In keeping with the above, and as a move towards preparedness, the 1993 NPDPM was recently revised and a new National Policy and Strategy on Disaster Risk Management put in place. The new **Disaster Risk Management** (DRM) **Policy** was endorsed by the Councils of Ministers in 2013 and shared with all stakeholders (MOA, 2013).

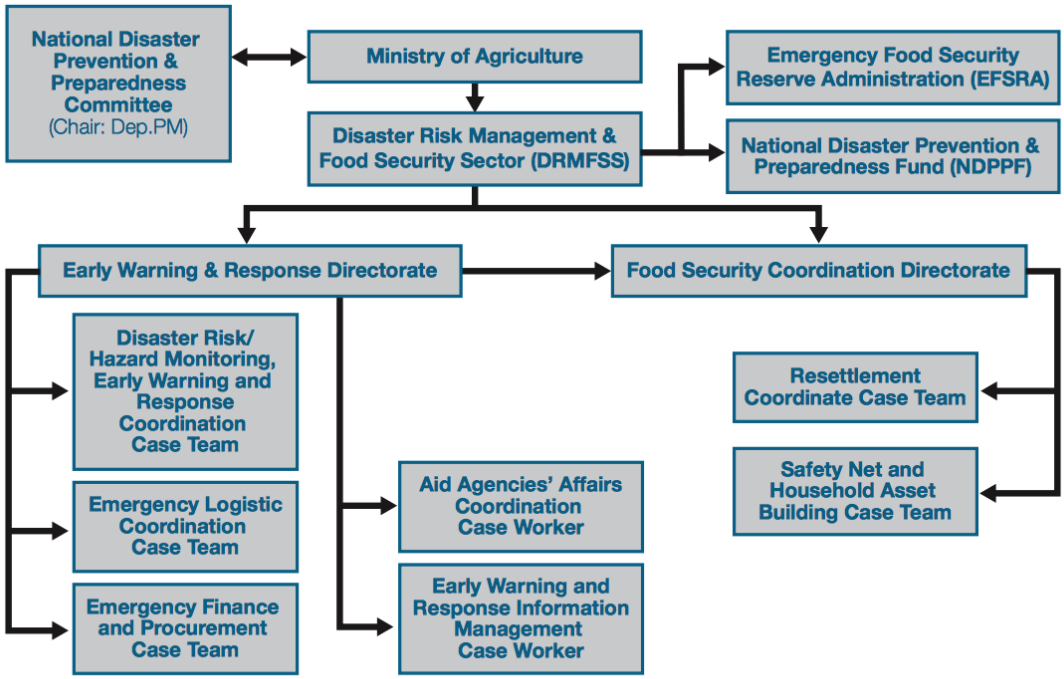
BOX 8. THE DISASTER RISK MANAGEMENT POLICY

The DRM policy is organised according to the priority areas of the Hyogo Framework for Action and addresses some of the weaknesses of the 1993 policy, including a focus on drought, the lack of information on community vulnerability and flood preparedness. As stipulated in the policy document, the DRM policy focuses on proactive *ex-ante* preparedness and disaster risk reduction, considers multiple hazards, takes a mulit-sector approach, strives to inform decision-making based on strong risk assessments and early warning system and supports a decentralised and community-based disaster risk management system.

The new DRM policy gives renewed attention to early warning system (EWS). A national EWS has been in place in Ethiopia since 1976, strengthened in 1996 by the creation of an Early Warning Working Group set up to co-ordinate early warning activities related to food insecurity among government agencies, donors, UN agencies and NGOs. Currently, Early Warning Committees operate at all levels, including *woredas*, and provide the government with information on a weekly and monthly basis. Recently, the government also developed the Livelihood, Early Assessment and Protection (LEAP) Project as an additional early warning/action tool that prompts the timely scaling up of response, linking early warning to contingency planning.

The DRMFSS is today the lead authority responsible for dealing with hazards, including drought, flooding and food insecurity: it co-ordinates DRM across ministries, regions, and zones. The DRMFSS comprises two main structures, the **Early Warning and Response Directorate** (EWRD) and the **Food Security Co-ordination Directorate** (FSCD) (Figure 8). This arrangement represents a fundamental shift in the government's approach to disaster management, moving from a drought- and relief-focused approach to a more proactive multi-sectoral and multi-hazard disaster risk management approach.

Figure 8. Institutional Structure for DRM



Source: ICRC, 2013.

The DRMFSS currently operates under the Ministry of Agriculture but it is planned to move to become directly under the office of the Prime Minister.

4.2 ACHIEVEMENTS AND CHALLENGES

Government has now started to apply some of the principles outlined in the new policy, notably in key areas such as hazard profiling, EWS and DRM mainstreaming. Achievements thus far accomplished include the:

- formulation of a Strategic Programme and Investment Framework (SPIF)[12] – to implement DRM policy;
- creation of a standardised system of risk assessment;
- collection of disaster risk profile information for some 300 *woredas;*
- preparation of hazard profiles for some 225 *woreda*[13]*;*
- capacity building training on risk assessment for *woreda*, zonal, regional and federal staff;
- incorporation of disaster mitigation objectives into the five-year development plan of the country (i.e. the Growth and Transformation Plan – GTP); and
- preparation of risk profile-based DRR plans and contingency plans for some *woreda*, with contextualised EWS.

While significant advances have been made in the past few years in institutionalising the new DRM approach, some practical challenges still need to be addressed. In this regard, future development or disaster response interventions should take into consideration the following gaps/challenges:

- poor understanding of the policy context by government staffs at *woreda* and zone levels, particularly to reflect the shift in thinking which the policy intends to bring in linking relief to development. For example, because of the knowledge/awareness gap, the recently established Disaster Risk Management Task Force in Borana zone has continued to pursue traditional, reactive, ex-post emergency response and relief work. The same problem may also exist among NGOs operating in the zone. This calls for all development actors (including NGOs) to incorporate awareness raising and inclusion of the DRM policy into their respective development and/or humanitarian interventions; and
- the new DRM policy pays insufficient attention to traditional early warning systems practices by, for example, pastoralists. Field observations confirm that the majority of pastoral and agro-pastoral communities rely heavily on their own traditional EWS. Some, if not all, elements of the traditional EWS can be linked to conventional EWS and thus provide a more comprehensive, useful and acceptable overview of the actual situation, livestock health and natural resource management, amongst others. To be effective in this regard, all development partners operating in the zone must again work together to identify, register, verify and document important elements of traditional EWS.

[12] SPIF – a tool developed by DRMFSS to facilitate an effective implementation of the DRM policy – was launched on 4 December 2014. Among others activities, the SPIF guides identification of priority interventions and estimates investment cost of disaster mitigation or resilience building.

[13] National progress report on the implementation of the Hyogo Framework for Action (2013-2015). 15 January 2015.

5. ADMINISTRATIVE STRUCTURES INVOLVED IN DISASTER RISK MANAGEMENT

5.1 GOVERNMENT AGENCIES

The Federal Government is responsible for preventing disasters in the first instance, providing timely response if one happens and establishing disaster response preparedness and a response system. Under this framework, each region, zone, and *woreda* undertake activities ranging from prevention to rehabilitation using their own capacities.

Line ministries are responsible for preparedness and the co-ordination of responses undertaken for hazards relevant to their specific sector. In this regard, the following line ministries and their responsibilities are profiled:

- **Ministry of Agriculture**: responsible for agriculture-related hazards and associated disasters such as livestock diseases and crop pests and diseases, as well as addressing disaster-induced shortages of animal feed and crop seed supplies;
- **Ministry of Health**: acts as a lead institution with respect to food shortage-induced malnutrition affecting children and mothers, as well as human epidemics associated with disasters;
- **Ministry of Water, Irrigation and Energy**: responsible for flood preparedness and the co-ordination of responses to water- and sanitation-related disasters, including floods;
- **Ministry of Federal Affairs**: acts as a lead institution with respect to conflict-related hazards and associated disasters; and
- **Ministry of Education:** mandated to take necessary measures before, during and after the disaster period to prevent any hazards and related disasters from interrupting the normal teaching/learning process, as well as regarding mainstreaming of disaster risk management into school curricula and integrating it into studies ad research conducted by research and higher learning institutions.

The counter structures of these ministries in the regions, zones and *woreda* are assigned as lead institutions and responsible for undertaking activities ranging from monitoring to response with respect to hazards and related disasters that are not under the responsibility of the Federal Government.

At the zonal scale the following offices are present:

- Zonal Administration Office;
- Zonal Water Office;
- Zonal Capacity Building Office;
- Zonal Pastoral and Rural Development Office; and
- Zonal Planning and Economic Office.

The **Disaster Risk Management Council (DRMC)** is today the highest policy and oversight body in the country's administrative framework in terms of risk management. It is intended to be chaired by the Prime Minster. As stated in the policy document, the DRMC is mandated to:

a) oversee the implementation of the DRM Policy, monitor and evaluate its implementation, and amend this policy and strategy as required;
b) make policy decisions on issues regarding DRM;
c) provide general direction regarding issues related to DRM;
d) ensure that appropriate laws, directives, frameworks, plans and proper organisational

structures are in place to support DRM undertakings;

e) officially declare a disaster;
f) allocate additional resources from the government and mobilise resources from domestic and international sources through the DRM co-ordination structure; and
g) ensure that disaster response funds, food and non-food stocks – as well as additional resources allocated by the government and those mobilised from domestic and international sources – are used for the intended purpose.

Since its establishment, the DMFSS has played a major role in:

- providing a coherent framework and policy for DRM at the national, regional, and local levels;
- co-ordinating DRM activities undertaken by line/at sectorial ministries; and
- developing common methodologies and baselines for risk profiling and a more unified, transparent, co-ordinated and objective EWS.

5.1.1 Early Warning Systems

It is reported that more than 30 early warning systems, methodologies, and approaches exist in the country. Experience, however, indicates that it can take up to 12 weeks to process information from all of these sources and translate them into a declaration of an emergency (CARE, 2008).

A number of early warning approaches are used that consider a range of "triggers" to mark on the onset of drought. These include:

- EWRD;
- government biannual multi-agency assessments;
- the LEAP project;
- in Borana, the use of the rainfall/stocking ratio (ILRI and PARIMA);
- the Livestock Early Warning System;
- EWS trigger mechanism (run by the former DPPA, supported by Save the Children-UK);
- EWS run by NGOs, including CARE and Oxfam;
- traditional community EWS; and
- nutritional assessments.

Early warning systems, if they are to be effective, require a multi-sectoral, interdisciplinary approach from monitoring and response to evaluation. The EWRD monitors risks, issues alerts and strengthens linkages between early warning and assessments. Government structures at the regional, zonal and *woreda* levels serve a similar co-ordination role. The functional linkages between community-based early warning systems to the provincial and national level are, however, weak (Pulwarty, R. Sivakumar, V. 2014).

Examples[14] of the types of early warning indicators collected include:

- the occurrence of extreme conditions such as hail storms, unseasonal rainfall and extreme temperature;
- ploughed and cultivated land available;
- supply and distribution of agricultural inputs, e.g. fertilizer;
- crop condition and production prospects;
- disease and pest outbreaks affecting crops and livestock;

[14] Taken from Dr Kassahun Bedada Beyi, The Evolution of Ethiopian Government's Early Warning System. http://www.ennonline.net/fex/40/evolution

- supply of feed and water for livestock;
- sudden movement of livestock;
- nutritional status of the population, particularly in pastoral areas, and with the appearance of increased incidence or 'hot spots';
- emergence of conflicts; and
- spread of human diseases.

5.1.2 Other Structures

Food management, agriculture, health and nutrition, WASH and education – are task forces led by the DRMFSS in conjunction with the relevant line ministries (i.e. Ministry of Agriculture, Health, Water and Energy and Education, respectively). Task forces are responsible for the co-ordination, monitoring and reporting on emergency and recovery interventions, in partnership with relevant partners, including UN agencies, NGOs and donors.

Additional co-ordination entities exist to improve inter-sectoral responses, such as the Mutli-Agency Co-ordination (MAC) group as well as the Emergency Co-ordination Centre (ECC), led by the DRMFSS and the Early Warning and Emergency Co-ordination Centre established at DRMFSS. The Centre serves as a central body for stakeholders to co-ordinate resources, implement MAC group decisions and process requests for resources, based on requests from Incident Command Posts in the field.

The Ethiopian Humanitarian Country Team (EHCT) provides a co-ordination mechanism for government, the UN, NGOs and donors. The EHCT is led by the Humanitarian Co-ordinator and includes representation from UN agencies, country directors of IOM, ICRC, the Ethiopian Red Cross, CARE, IRC, World Vision, Save the Children, national and international NGOs and representatives from ECHO, DFID and USAID.

The government also has an Agriculture Sector Policy and Investment Framework. In this, the Ministry of Agriculture has committed, on average, US$350million per annum for disaster risk management, which constitutes more than 58 per cent of the investment made in the agriculture sector.

The **Productive Safety Net Programme** (PSNP) provides a predictable mechanism to organise transfers in the form of food or cash to approximately six million chronically food insecure people, mostly in return for participation to public works. It is largely carried out by the government and mostly financed and supported by international donors. The Risk Financing Mechanism is a recent addition to the safety net, which allows its scaling-up in times of acute crises. The DRMFSS is also at the centre for co-ordination and implementation of crisis response and relief food distribution as well as resilience building initiatives, in close co-operation with the EHCT[15].

Risk financing, managed by the **National Disaster Prevention and Preparedness Fund Administration**, and with the involvement of major donors is owned at the federal level. In addition, the LEAP index, supported by the World Food Programme and the World Bank provides another source of risk financing. This is linked to the national PSNP.

5.1.3 A Commitment to Risk Management

Taking the above into consideration, the government has shown evidence of a commitment to DRM and climate change adaptation.

[15] Humanitarian Implementation Plan for the Horn of Africa. ECHO. 2014.

In 2011, Ethiopia was implementing over 28 national climate change adaptation (CCA) projects, which is considerable compared with other countries in the region. These are implemented across a wide range of priority sectors with more than half focused on the agricultural (including livestock) sectors. While some projects are field based and involve community-based approaches, the majority of projects also address capacity building, policy formulation and research[16]. Responsibilities for their implementation and management lay in the hands of a number of ministries and organisations.

The government's post-2015 development agenda includes creating a **Climate Resilient Green Economy**, based on the four pillars of food production, ecosystem management, renewable energy production and using efficient technologies. The most important initiatives for each pillar are listed below:

1. Priority initiatives identified to ensure food security through enhanced crop cultivation and improvements in the livestock sector:
    - intensify agricultural production through improved inputs and better residue management, resulting in a decreased need for additional agricultural land;
    - create new agricultural opportunities in degraded areas through small-, medium- and large-scale irrigation programmes, again with the intention of protecting forested lands;
    - introduce lower-emission agricultural techniques into cultivated areas, to include carbon- and nitrogen-efficient crop cultivars and the promotion of organic fertilizers;
    - increase animal value chain efficiency, to improve productivity, combined with an increased offtake rate, led by better health and marketing support services;
    - support the consumption of lower-emitting sources of protein such as poultry;
    - introduce mechanical equipment for ploughing/tillage that could substitute around 50 per cent of animal draft power; and
    - manage rangeland to increase its carbon content and improve land productivity.

2. Priority initiatives considered for ecosystem management:
    - reduce the demand for fuelwood via the dissemination and usage of fuel-efficient stoves and/or alternative fuel cooking and baking techniques such as electricity, liquid petroleum gas or biogas stoves;
    - increase afforestation, reforestation and forest management to increase carbon sequestration. These initiatives would result in an increased storage of carbon in Ethiopia's forests, provide a basis for sustainable forestry and allow the forestry sector to yield negative emissions, i.e., store more carbon in growing forests than is emitted from deforestation and forest degradation;
    - promoting area closure via the rehabilitation of degraded pastures and farmland, leading to enhanced soil fertility and additional carbon sequestration (above and below ground).

3. Priority initiatives for renewable energy production:
    - expanding electric power supply at a rate more than 14 per cent per year so that it can support economic development that is itself increasing at 10 per cent per annum;
    - exploit the country's vast potential of hydro, geothermal, solar and wind power; and
    - by increasing the supply, while maximising energy efficiency, export clean energy to neighbouring countries.

[16]Review of Current and Planned Adaptation Action: East Africa. 2011. Adaptation Partnership.

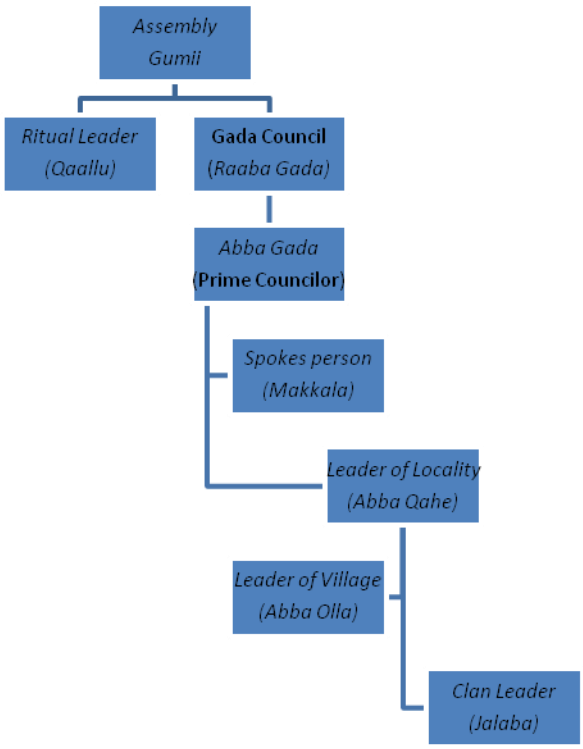
4. Priority initiatives identified to leapfrog to modern and energy efficient technologies:
   - introduce stricter fuel-efficiency standards for passenger and cargo transportation and promote the purchase of hybrid and electric vehicles;
   - construct an electric rail network – powered by renewable energy – to substitute road freight transport;
   - improve urban transport in Addis Ababa by introducing urban electric rail and enabling fast and efficient bus transit; and
   - substitute imported fossil fuels with domestically produced biodiesel and bio-ethanol.

5.2 TRADITIONAL GOVERNANCE STRUCTURES

In addition to modern institutions, traditional institutions have long played an important role in governing access to and use of natural resources, overseeing a number of inter-related systems such as pasture, rangeland management and conflict prevention/resolution.

The most widely recognised system of traditional governance is the G*ada*, an institution which manages access to, and use of, major resources such as traditional wells and grazing lands, through its different levels of structures (Figure 9). This is a well-known African political system which permeates all aspects of life in Ethiopia.

Figure 9. Organisational Structure of the Borana Oromo *Gada* Institution[17]



[17]Some differences may occur in this structure according to local systems. Not shown, for example, are women self-help groups ("*Sinke*") and other natural resource related councils.

Other important community-level include the *Dheda* Council, which is headed by an *Aba Dheda* who is responsible for implementing the proclamations of the Assembly. The *Dheda* is sub-divided into *Ardha (Arda*) – settlements/clusters which, in turn, form neighbourhoods called *Reera*. Each *Reera* comprises a series of encampments/villages known as "*Olla*". An *Olla* is the lowest traditional entity and varies in size from 10-30 households. Every *Olla* has a head person – the "*Abba Olla*" – who is responsible for co-ordinating all activities of common interest.

5.3 OTHER MAIN DEVELOPMENT INITIATIVES IN BORANA

According to information obtained from the FEDO of the Borana zone, almost 50 NGOs are currently operating in the zone (Table 7). Considerable numbers of international NGOs have an actual presence in Borana, while others are represented by local NGOs through financial support. The main sectors in which both national and international NGOs are engaged in include resilience building, drought recovery, WASH, emergency, rural development and education.

Among the Swiss agencies, HEKS-EPER and the Swiss Red Cross (through its Ethiopian Branch) are currently active in the Borana Zone, the latter in terms of water supply which includes a significant component of hygiene promotion. Support is also being provided in terms of preparedness and response, and in building local (administration) DRR capacity.

Table 8. UN/NGO Actors in Borana (as of December 2014)

People in Need	CAFOD
Gayo Pastoralist Development Initiative	ADRA
Action for Development	GOAL
Save the Children	UNICEF
SOS-Sahel	Swedish Mission Council
AgriService Ethiopia	Trocaire
Dan Church Aid	ACORD
CARE	CORDAID
EECMY (Makane Yesus)	CISP
Hundee Oromo Grassroot Development Initiative	Millennium Development Goal Fund
Veterinaries sans Frontiers, Switzerland and Germany	Ethiopian Red Cross
Panos	UNDP
Merlin	World Vision
COOPI	ACF
Japan International Co-operation Association	IAS
Harar Ethiopia	OGAA
Ethiopia Wet land and Natural Resource Association	OSHO
Catholic Church	Kalehiwot Church
EECMY	Muluwengel Church
Bright Future	IIRR
Help Age International	Mercy
CIFA	Abrasa
HEKS-EPER	Organization for Social Development
Techno Service	DOCRAS AID
BPGEA	Lutheran World Federation
MISMIDO	Egare
Action Aid	Society for International Ministries

HEKS has been active in the zone since 2006, with a current focus on livelihood security (including natural resource management value chains), WASH and humanitarian aid, in a programme that started in 2006. A promising practice is the New Borana Watershed Initiative project, an integrated approach for watershed management covering an area of 3,500ha which has been replanted and is now usable for agriculture. HEKS has also undertaken a study together with Swisspeace on conflict in the zone, the results of which will be available later in 2015.

On a regional level, mention should be made in particular of the co-ordination and exchange roles enabled by the Regional Learning and Advocacy Programme (REGLAP). Funded by ECHO, this project, which gave priority focus to activities in Ethiopia, Kenya and Uganda, aimed to reduce the vulnerability of pastoral communities through policy and practice change in the Horn and East Africa. Particular emphasis was given to civil society advocacy capacity, knowledge gathering, promoting good DRR practice and policy dialogue. In 2014, REGLAP was restructured to form the Dryland Learning and Capacity Building Initiative, an independent resource organisation working toward improved policy and practices in the Horn of Africa.

5.4 GAPS IN THE LEGAL FRAMEWORK AND ITS IMPLEMENTATION

While Ethiopia should be applauded in its efforts to support DRR and CCA, it still faces a number of challenges (ICRC, 2013), which include:

- the draft NPSDRM does not provide for full accountability and responsibility;
- currently there is a disconnect between DRR and Climate Change Institutions, partly due to overlapping mandates, which translates into a lack of responsiveness at the local level;
- significant gaps in capacity exist within all government bodies at the federal and *woreda* levels; and
- knowledge and communication of DRR/DRM remains a considerable hurdle at the lower levels of government administration which, in turn, acts to hamper community participation in processes and activities.

According to the government's own analysis, there is an institutional gap in so far as there not being a formal organisation responsible for the development of the pastoral and agropastoral areas, though certain improvements are being noted (FDRE, 2010, 2014). There is, therefore, a need to find ways that local government, which may not have the capacity to administer the rangelands effectively, can work with traditional institutions to ensure effective governance and natural resource management. This may involve legal recognition of customary institutions and agreement on the respective roles and responsibilities of state and customary institutions.

Some NGOs operating in Borana Zone have already started to build the capacity of some of the lower levels of government, particularly the *woredas* and *kebeles*, with concept and knowledge of DRR/DRM. Nevertheless, many such structures continue to experience serious capacity gaps to then actually be able to apply the principle and techniques of DRR/DRM in their development planning or related work. This problem can be attributed to many factors that include:

- high staff turnover;
- transfer of trained staff to other jobs or responsibilities; and

- the low level of education by those in decision-making roles and posts.

At the same time, conscious efforts towards strengthening knowledge and capacity can be seen in the establishment of a Department of Disaster Risk Reduction and Sustainable Development in the Faculty of Agriculture and Environmental Sciences at Bahir Dar University (ICRC, 2013).

6. RECOMMENDATIONS FOR DRR/CCA AND RESILIENCE BUILDING IN BORANA

6.1 PRIMARY CONSIDERATIONS

Several entry points can be identified for further developing DRR/CCA and resilience building activities in the Borana zone, the actual choice of which is likely to be dependent upon the area of expertise of NGOs, its experience the costs of interventions, perceived needs and priorities (among others).

Based on past experiences, which include many good references of best practice, future interventions need to consistently address the following:

- all activities should actively ***support the integrity*** of pastoralist livelihoods;
- interventions should be ***fully inclusive and reflect the needs and aspirations of all community members;***
- all activities should ***focus on developing and strengthening transformative resilience***, i.e. enabling communities to continue to build their own resilience after externally supported initiatives have ended;
- activities should ***reflect support for national and local/zonal development plans***;
- ***scale-up existing interventions of good practice***, rather than piloting "new" ones;
- to the extent possible, ***all actors involved in DRR/CCA and resilience building should work together*** in developing a holistic DRM plan – which embraces risk, livelihoods, preparedness and resilience – for the Borana zone.

6.2 SPECIFIC RECOMMENDATIONS

The following recommendations are based on two identified opportunities which are seen as being timely both to re-inforcing recent decisions and actions taken by government, as well as a realisation that many good experiences already exist in Ethiopia and Borana which should be showcased and used as the basis for scaling-up planned, or realigning existing, projects on the ground:

a) government commitment which needs to be extended and translated into delivering technical training and capacity building on DRM and resilience building to administrative and technical services on the ground, at the *woreda* and *kebele* levels. Recognition must be given to the importance of traditional structures in this approach; and

b) despite, or possibly because of, the number of DRM/CCA activities undertaken or ongoing in the country, strengthened co-ordination and cross-fertilisation of good practices are required to improve overall delivery of interventions.

With these in mind, the following recommendations are made.

1. Undertake a needs assessment of required awareness and skills/capacity enhancement of *woreda* level Task Forces and responsible officers for DRM/CCA and natural resource related issues, including water, rangelands and women's affairs. This should extend to woredas, in turn, providing direct support to respective *kebele* and villlages.

2. Strengthen the capacity and effectiveness of local administrations at the *woreda* level in terms of understanding the content of, and opportunities presented by, the 2013 DRM Policy.

3. Facilitate and support DRM mainstreaming at the *woreda* and *kebele* levels into local and zonal hazard mapping, contingency planning and strategic development plans, based on the former activities.

4. Improve zonal vulnerability assessments, contingency planning and early warning systems, with appropriate links made to national and regional preparedness and response mechanisms and contingency plans. Resources need to be dedicated for capacity building and implementation of preparedness measures.

5. Facilitate the integration of both traditional (local) and scientific knowledge into all aspects of DRM planning – from early warning to the design and implementation of DRR activities. This is particularly relevant given the overwhelming dependency on traditional forecasting for rural communities and certain administrative functions.

6. Advocate for stronger community ownership and engagement in supporting and developing transformative adaptive capacity at all levels of DRM. *Woreda* and central government support is required for this to become clearly acknowledged and institutionalised.

7. Advocate for DRR and disaster preparedness, in particular, to be scaled-up and mainstreamed into humanitarian response and within the development agenda, thereby increasing beneficiaries' potential resilience to future disasters. Central government support is essential for this to happen.

8. Strengthen and solidify the power of the traditional *Gada* system through more clearly defined roles and responsibilities with that of government administration. This represents an important potential entry point for levelling the field between tradition and government, in which DRM/contingency planning could be introduced as a basis for future collaboration. Zonal level platforms for Co-ordination should be included.

9. In relation to land use policy reform, help strengthen pastoralist's positions in governance and sustainable resource management in terms of formal protection against land alienation.

10. Provide assistance and direction with the diversification of livelihoods and income generating activities (particularly those in the value chain) which are appropriate for the community and sustainable in terms of not exceeding the carrying capacity or depleting natural resources.

11. A multiple approach needs to be taken to address conflict-related issues given the fact that few conflicts stem from a single source or concern. Mediation is required between

traditional governance systems and government institutions, the former often being overlooked by the latter.

12. National stakeholders and their development partners need to be engaged to address the identified needs. Amongst all humanitarian and development actors, a better understanding, common analysis and clear vision is needed for dryland communities.

13. Ensure broader information exchanges between institutions – government and non-governmental – through sharing of lessons learned and closer collaboration with other partners working in the same field. This though should not result in a duplication of already existing platforms such as that established by REGLAP.

14. Promote Pastoralist Field Schools in which pastoralist themselves undertake action research on varieties of issues such rangeland management, livestock disease, and community land use planning.

15. Identify, promote and enable appropriate means of diversifying livelihoods and increasing access to markets, especially among the poor segments of the community, including pastoralist drop-outs.

16. Test alternative methods of rehabilitating the rangelands such as over sowing fodder grasses, establishing fodder banks and use prescribed burning to control bush encroachment.

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ANNEX I. EXAMPLES OF GOOD DRR/CCA PRACTICES IN THE BORANA ZONE AND OTHER PASTORALIST AREAS OF ETHIOPIA

NAME OF PROJECT	LINK
Regional Resilience Against Drought (READ) Phases 1 and 2	http://www.disasterriskreduction.net/fileadmin/user_upload/drought/docs/Final%20draft%20RREAD%201%20and%202%20Lessons%20Learnt%202%20.pdf
Disaster Risk Reduction Programming in Ethiopia's Somali Region. Project Effectiveness Review. Summary Report	http://policy-practice.oxfam.org.uk/publications/effectiveness-review-disaster-risk-reduction-programming-in-ethiopias-somali-re-303493
Disaster Risk Reduction in the drylands of the Horn of Africa. REGLAP.	http://www.preventionweb.net/files/21183_reglapnewsletterfinal2011c1.pdf
Improving Drought Response in the pastoral areas of Ethiopia. Somali, Afar and Borena Zone of Oromia Region	http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2043.pdf
Report for the final evaluation of Building Resilient Pastoral Communities Project	http://reliefweb.int/sites/reliefweb.int/files/resources/brpc-project-final-evaluation-report-final%20(1).pdf
Disaster Risk Reduction in the drylands of the Horn of Africa – Edition 4. REGLAP	http://www.disasterriskreduction.net/fileadmin/user_upload/drought/docs/REGLAP%20Journal%204_FINAL.pdf
Disaster Risk Reduction in the drylands of the Horn of Africa – Edition 3. REGLAP	http://www.oxfamblogs.org/eastafrica/wp-content/uploads/2010/09/REGLAP+Newsletter+Edition+3+22+Feb+2013.pdf
Community Managed Disaster Risk Reduction: Experiences from the horn of Africa	http://www.preventionweb.net/english/professional/publications/v.php?id=22375