



DISASTER RISK REDUCTION IN AFRICA

STATUS REPORT - 2015



Building Disaster
Resilience in
Sub-Saharan Africa



An initiative of the African, Caribbean and Pacific Group of
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UNISDR

United Nations Office for Disaster Risk Reduction

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Executive summary

Africa holds half of the world's most risk-prone countries, and is experiencing a rising number of disasters. The continent's progression towards sustainable development requires that government and development actors recognise and react to the importance of disaster risk reduction (DRR). Historically, a pattern of progress and setbacks has occurred, where droughts and floods – two of the most common natural hazards – cause significant displacement of populations, losses in agriculture and infrastructure, and present challenges to planning in the face of increasing urbanisation across the continent. All of these have negative impacts on the continent's development achievements.

Global concern for DRR, particularly in developing countries, has led to the establishment of the United Nations Office for Disaster Risk

Reduction (UNISDR). Its mandate, defined by UN General Assembly resolutions, includes its designation as the focal point in the UN's system for coordinating disaster reduction, and ensuring regional organisations in the socioeconomic and humanitarian fields work together to the greatest effect. The importance of managing risk and building resilience has been high on the international agenda and was highlighted in 2015 and 2016 by Agenda 2030's Sustainable Development Goals, the Paris Agreement on climate change and the World Humanitarian Summit.

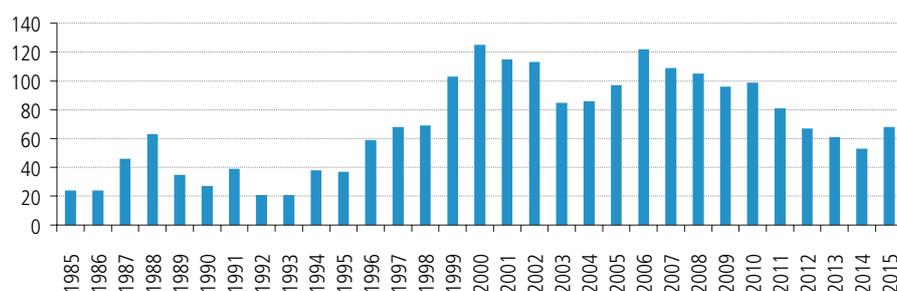
This report, produced by Development Initiatives on behalf of UNISDR, profiles the frequency, location and severity of natural hazards across the continent. It examines risk drivers that exacerbate natural hazards' impacts on populations, and analyses the state of Africa's preparedness against the

risk of disaster in relation to the Hyogo Framework for Action (HFA, 2005–2015). The authors consider the roles of other stakeholders, such as the private sector, as well as the financing and investments supporting countries to prepare for disasters. The report concludes by looking forward to how preparedness will be measured by the Sendai Framework for Disaster Risk Reduction (2015–2030).

Development Initiatives has used documentation provided by UNISDR, as well as data from the international Emergency Events Database: EM-DAT, national disaster (loss) databases: DesInventar, and the INFORM Risk Index. The authors have delved deeper into countries' own assessments on progress in implementing the HFA by conducting additional fieldwork.

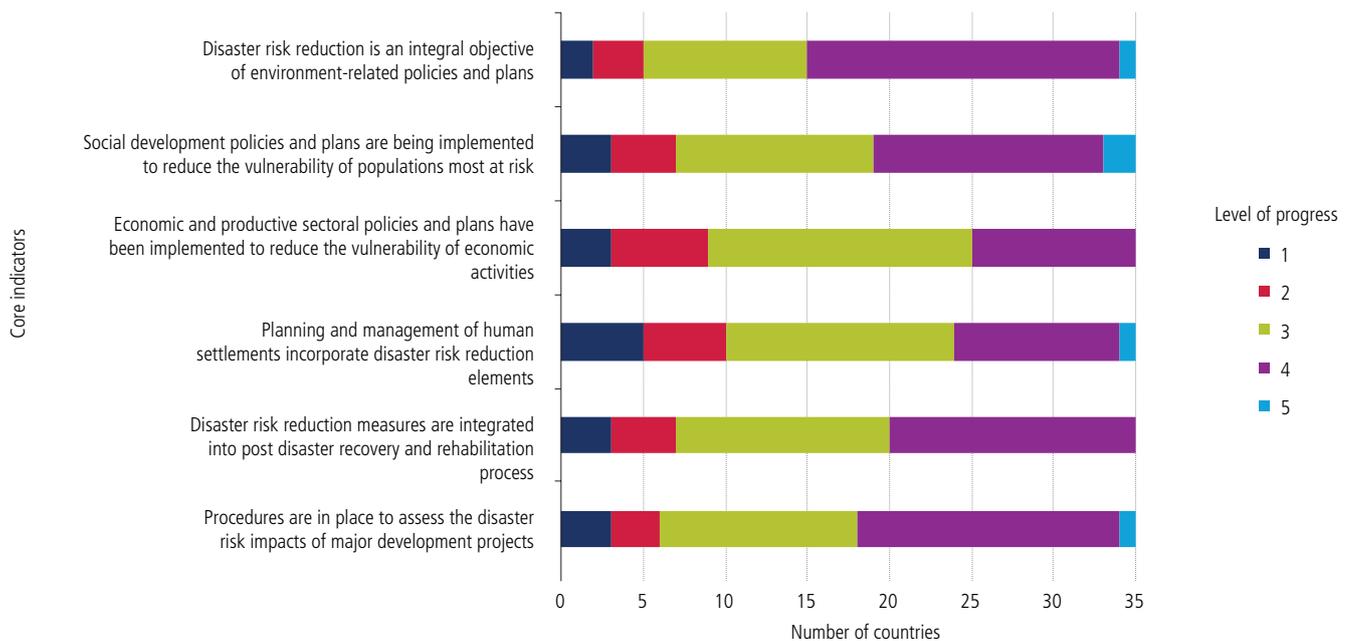
The authors find that the number of reported disasters as a result of natural hazards has increased in Africa over the last 30 years, with floods, epidemics and drought occurring most often. The most hazard-prone countries in Africa are Ethiopia, Kenya, Mozambique, Mali, Niger, Sudan and Uganda. Overall losses in human lives dropped between 2005 and 2015, while the number of people needing immediate assistance or injured rose during the same period.

Number of reported natural hazards resulting in disasters in Africa, 1985–2015



Source: Development Initiatives' based on EM-DAT: International Disaster Database

Level of progress across HFA 4 core indicators, 2013–2015 period



Source: Development Initiatives based on National Progress reports

Level of progress

- | | | |
|--|--|--|
| 1 Minor progress with few signs of forward action in plans or policies | 3 Institutional commitment attained, but achievements are neither comprehensive nor substantial | resources and/or operational capacities |
| 2 Some progress, but without systematic policy and/or institutional commitment | 4 Substantial achievement attained but with recognised limitations in key aspects, such as financial | 5 Comprehensive achievement with sustained commitment and capacities at all levels |

This report identifies climate change, poorly planned urbanisation, environmental degradation, poverty and inequality as well as fragility and conflict as the biggest disaster risk drivers across the continent. Africa faces a significant challenge from climate change; over 20 African countries are highly vulnerable to its effects. Most (61.7%) of Africa's urban population lives in slums. Such informal settlements are often located in the most hazard-prone urban areas. Close to half (45%) of land area is affected by desertification and 55% of this area is at high or very high risk of further degradation. It is estimated

that central and eastern Africa will lose 12 million hectares of forest by 2030 due to deforestation. Poverty and socioeconomic inequality increase vulnerability and undermine resilience.

Progress in implementing the HFA has been slow. Many of the issues and challenges in the 2011–2013 reporting period remain present in the 2013–2015 reporting period. While African countries report having integrated DRR into national plans; limited political commitment and limited domestic resource allocation towards it inhibit proper implementation.

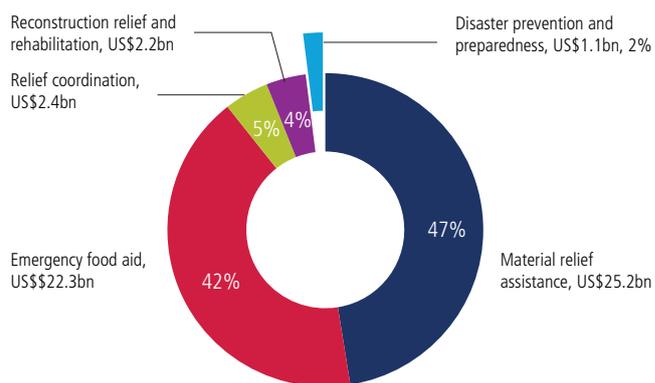
While DRR in Africa is financed through national budget allocation, the private sector and international sources, it is clear more needs to be done. The barriers for implementing and prioritising DRR under the HFA are: low priority given to risk reduction in national budgets; a preference (or habit) of focusing on emergency response to disaster; and the lack of a standard DRR budget monitoring system. There are difficulties with tracking DRR-related expenditure, and this can make it difficult to assess whether investments are sufficient to manage multiple risks in a country.

Looking forward, there are opportunities to improve the accessibility and interoperability of data on DRR in Africa. At present, about 50% of countries report that national disaster information systems do not exist in the public domain. In addition, half the countries report that DRR information is not disseminated proactively. Many countries in Africa carry out multi-hazard risk assessments and these inform planning; however, the standards vary across countries making cross-country comparisons difficult. In addition, comparisons across

reporting periods are also limited by data availability.

If governments were to track their investments in DRR better, this would provide a useful indicator for assessing countries' progress during the Sendai Framework for Disaster Risk Reduction period (2015–2030). The establishment of the Open-ended Intergovernmental Expert Working Group, with support from UNISDR, is a significant development. The working group will develop global indicators, which will allow countries to demonstrate their progress in DRR against quantifiable goals.

International humanitarian assistance to Africa by expenditure type 2005–2014



Source: Development Initiatives based on Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Creditor Reporting System (CRS).

Note: Data in constant 2014 prices. Figures include regional funding.

Hazard and disaster impact profile of Africa

- The number of reported disasters as a result of natural hazards has been increasing in Africa in the last 30 years.
- Between 1985 and 2015, the most common occurrences of natural hazards in Africa recorded in both the national and international disaster databases are floods, epidemics and drought.
- Losses reported during the last 30 years range from US\$3.5 billion (based on national reports of 18 countries) to US\$22 billion reported internationally.
- The most hazard-prone countries in Africa, (based on past frequencies and analysis of disaster risk indexes) are Ethiopia, Kenya, Mozambique, Mali, Niger, Sudan and Uganda.
- Overall losses in human lives dropped between 2005 and 2015 while the number of people needing immediate assistance and those injured rose during the same period. This could imply that during 2005 to 2015, which coincides with the adoption of the Hyogo Framework for Action, African countries' capability to respond to disaster has relatively improved but not necessarily their capability to reduce the risk of disasters. This is in line with the finding in chapter 4 that more is spent on response than risk reduction.

Cases of reported disasters resulting from natural hazards have been increasing in Africa over the past three decades; this could be due to increasing monitoring of phenomena rather than actual rate of increased incidences. The international Emergency Events Database (EM-DAT) shows that a total of 2,147 natural hazards were recorded between 1985 and 2015 resulting in more than 210,000 losses in human lives, injuring close to 196,000 people, leaving around 400 million people needing immediate assistance and leaving about 8 million people homeless. Total damages to property, crops and livestock for the same period were estimated to be close to US\$22 billion.

Globally, Africa is a distant second to Asia in frequency of disasters caused by natural phenomenon, because of the latter's large population size, higher frequency of natural hazard and large number of people exposed to disasters. However, data on impacts of disasters can tell a different story depending on how it is presented. For example, a report by the Centre for Research on the Epidemiology of Disasters (CRED; 2015) indicates that although Asia recorded the highest number of disasters and people affected, (3.3 billion in China and India alone between 1994 and 2013), Eritrea would be one of the worst-affected countries in the world if data was standardised relative to populations.

Increasing frequency in recorded natural hazards has been observed between 1985 and 2015, though with a fluctuating trend (Figure 1.1). Along with increasing occurrences in Africa, the number of people affected by disasters, particularly those injured and people requiring immediate assistance, has also

BOX 1.1

Distinction between hazard and disaster

The Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Related to Disaster Risk Reduction' defines natural hazards as "a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation". The working group defines disasters as a serious disruption of the functioning of a community or a society due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.¹

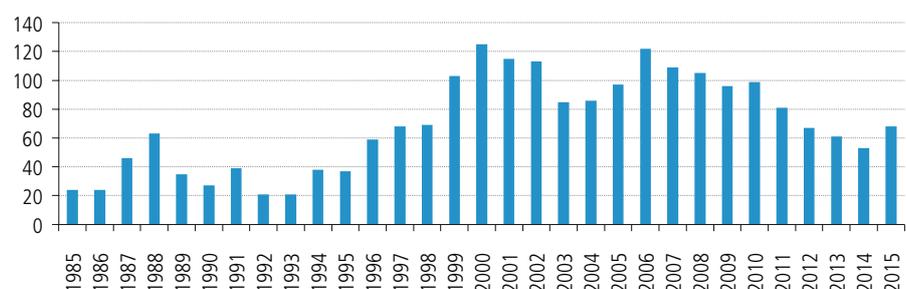
Thus, hazards are not disaster risks in themselves. For a hazard to pose as a disaster risk, it must include elements of *exposure* of people and assets, and negative consequences driven by *vulnerability*, that is characteristics and circumstances that make a community, system or asset susceptible to the damaging effects of a hazard.

Therefore, some disasters are preventable through environmental protection, proper urban and rural planning, good-will from government and citizens, and investments to reduce underlying risk factors.

been increasing. A declining trend is observed in losses in human-lives, missing persons and damages to property, crops and livestock, particularly between 2005 and 2015. To reduce disaster risks, first the types, magnitude and trends of natural hazards, levels of disaster risk and underlying risk drivers must be understood.

As EM-DAT shows, since 2000, sub-Saharan Africa has recorded an average of two disasters per week, affecting around 12.5 million people every year.² In 2015 alone, the continent was affected by drought and large-scale flooding across 22 countries, affecting about 23.5 million people: a significant increase from the 7.6 million people affected in 2014.³

FIGURE 1.1
Number of reported natural hazards resulting in disasters in Africa, 1985–2015



Source: Development Initiatives' figure using EM-DAT data

BOX 1.2

Capturing disaster loss: EM-DAT and DesInventar

The Emergency Events Database (EM-DAT) is an international disaster database maintained by the Centre for Research on the Epidemiology of Disasters (CRED). EM-DAT presents mass disasters from disaster reports of various sources from 1900 onwards. For a disaster to be entered in the database various criteria must be met: thresholds of 10 or more people reported killed, 100 or more people reported affected, declaration of a state of emergency, and a call for international assistance. The likelihood of intensive

events, that is low frequency and high severity, being recorded by EM-DAT is, therefore, much higher than extensive events that are frequent but of small to medium severity.

Based on open source software, the Disaster Information Management System (DesInventar), the national disaster (loss) databases, on the other hand, allows countries to record data from local administrative units at subnational level with no minimum thresholds. Extensive disasters of small

scale nature that are common in Africa and resulting losses are captured better in this.

This report also uses the INFORM Index for Risk Management. INFORM identifies where disasters and crisis may occur. By combining around 50 different indicators, it measures hazards that could occur, vulnerability or susceptibility of communities to those hazards, and capacity in terms of resources available to alleviate the impact.

Only around a third of African countries have implemented systematic DesInventar-based loss accounting systems. These are Comoros, Djibouti, Egypt, Ethiopia, Kenya, Madagascar, Mali, Mauritius, Morocco, Mozambique, Niger, Senegal, Seychelles, Sierra Leone, Togo, Tunisia, Uganda and the United Republic of Tanzania.⁴ The United Nations Office for Disaster Risk Reduction (UNISDR) plans to cover at least 15 more countries in the next year, while increasing the coverage to all African countries in the near future.⁵

For this report, EM-DAT has been used as the main source of building hazard and loss profiles and has been supplemented, where necessary, with available data from DesInventar.

Hazard profile of Africa

Natural hazards by country, 1985–2015

TABLE 1.1
10 African countries reporting the most natural hazards, 1985–2015

Rank	Country	Occurrence
1	Nigeria	109
2	DRC	108
3	Kenya	93
4	Ethiopia	91
5	Mozambique	83
6	Tanzania	81
7	South Africa	80
8	Sudan	78
9	Somalia	77
10	Uganda	73

Source: Development Initiatives' figure using EM-DAT data

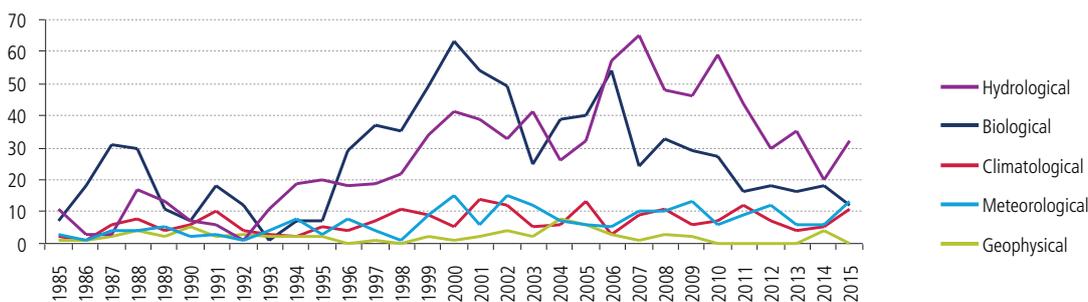
Notes: DRC: Democratic Republic of the Congo

Types of hazards,⁶ 1985–2015

Hydrological, biological, climatological and meteorological hazards⁷ dominate Africa's hazard profile, in that order, between 1985 and 2015 (Figure 1.2). Of the total 2,147 events recorded in Africa over that period, 40% were caused by hydrological hazards and 38% by biological hazards.

Findings from DesInventar for the 18 African countries, on the other hand, show that biological hazards were recorded as the most frequent, followed in order by climatological, hydrological, meteorological and geophysical hazards (Figure 1.3). Of the total 54,035 events recorded, half of the occurrences were biological followed by climatological at 22%. Note that more

FIGURE 1.2
Occurrence of natural hazards by group in Africa, 1985–2015

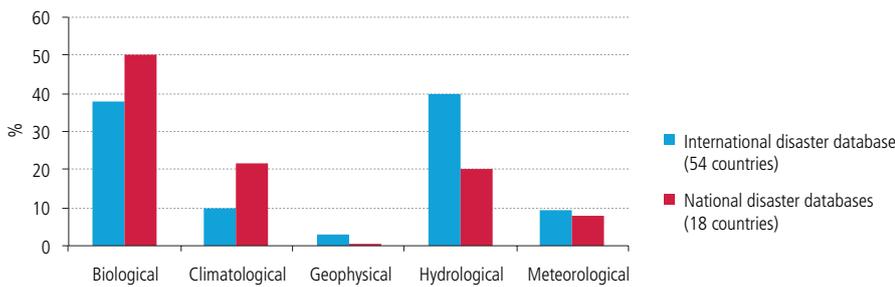


Source: Development Initiatives' figure using EM-DAT data

Note: see page 12 for terminologies

FIGURE 1.3

Composition of recorded hazards in Africa (%) by database, 1985–2015



Source: Development Initiatives' figure using EM-DAT and DesInventar disaster databases data

biological and climatological events were recorded in DesInventar than in EM-DAT for the same period despite the number of reporting countries being three times fewer in the DesInventar database. This discrepancy is due to the fact that many epidemics affect small numbers of people who are diffused over time and area and therefore may not meet EM-DAT's threshold (see Box 1.2).

Disaster event types, 1985–2015

EM-DAT shows that the most frequently occurring hazard type in Africa is floods, particularly riverine floods (29%), which overtook bacterial diseases in around 2006. After these come viral diseases, drought, flash floods, tropical cyclones and connective storms (Figure 1.4).

Both international and national databases shows floods, epidemics and drought as the three most common hazard types between 1985 and 2015. In terms of ranking, however, more

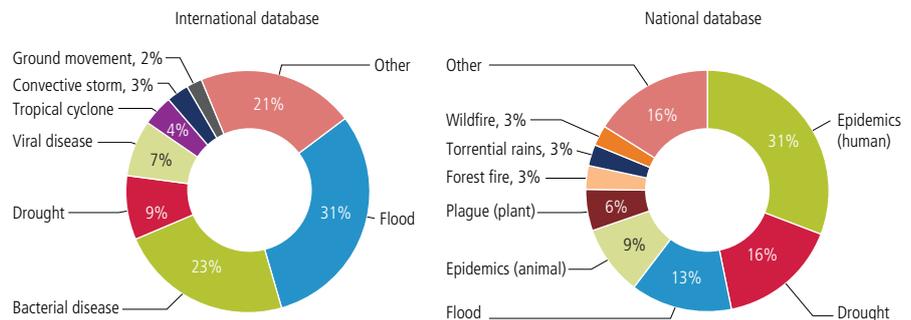
(human) epidemics were recorded nationally in DesInventar over the years followed by drought, flood, agriculture-related plagues and forest fires.

Natural hazard profile by region

As Table 1.2 shows, in the international disaster loss database, half (50%) of the events recorded in central and western parts of the continent are due to biological hazards (bacterial and viral diseases) while the Sahel region is mostly affected (43%) by biological and hydrological events. Hydrological events are the most recorded in northern, extreme east and southern parts of Africa.

FIGURE 1.5

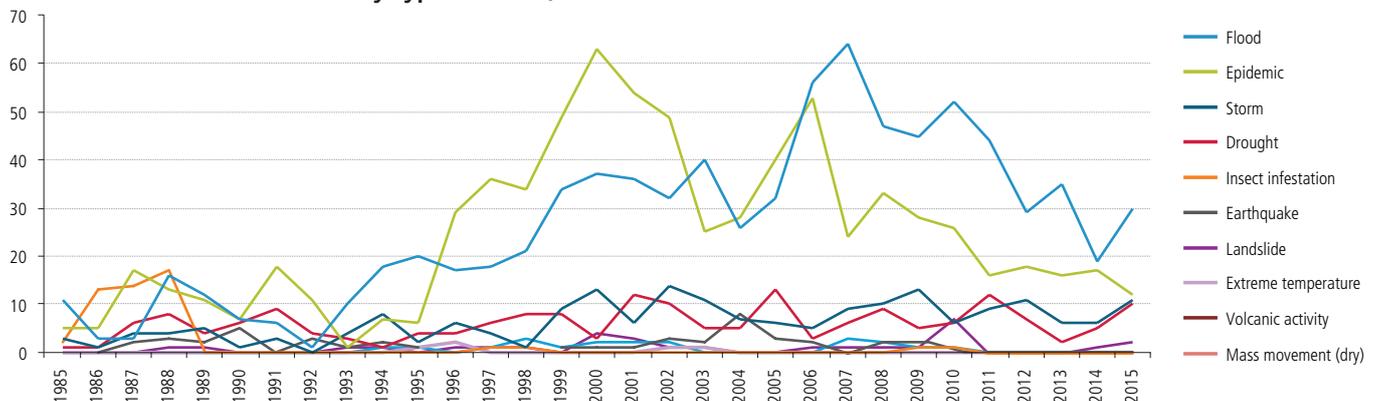
Composition of hazard type occurrence in Africa (%), 1985–2015



Source: Development Initiatives' figure using EM-DAT (international disaster database) and DesInventar (national disaster databases) data

FIGURE 1.4

Occurrence of natural hazards by type in Africa, 1985–2015



Source: Development Initiatives' figure using EM-DAT data

TABLE 1.2

Hazard group and type by regions in Africa, 1985–2015

Region by regional economic community (REC)*	Total records	Country (1 = highest occurrence)	Share of hazard group in regional total		Most frequently reported hazard sub-type
			Hazard	%	
Sahel/ Community of Sahel-Saharan States (CEN-SAD)	285	1 Niger	Biological	43	Bacterial disease, riverine flood, drought, viral disease
		2 Chad	Hydrological	36	
		3 Mali	Climatological	11	
		4 Burkina Faso	Meteorological	7	
		5 Mauritania	Geophysical	4	
		6 Egypt			
		7 Comoros			
Central Africa/ Economic Community of Central African States (ECCAS) (including Rwanda)	310	1 DRC	Biological	50	Bacterial disease, riverine flood, viral disease, convective storm, flash flood
		2 Burundi	Hydrological	34	
		3 Cameroon	Meteorological	7	
		4 Central African Republic	Climatological	6	
		5 Rwanda	Geophysical	3	
		6 Congo			
		7 Gabon			
		8 Sao Tome and Principe			
		9 Equatorial Guinea			
Greater Horn of Africa/ Intergovernmental Authority on Development (IGAD)	425	1 Kenya	Hydrological	44	Riverine flood, bacterial disease, drought, viral disease, flash flood, landslide
		2 Ethiopia	Biological	37	
		3 Sudan	Climatological	13	
		4 Somalia	Meteorological	3	
		5 Uganda	Geophysical	3	
		6 Djibouti			
		7 South Sudan			
		8 Eritrea			
Western Africa/ Economic Community of West African States (ECOWAS)	450	1 Nigeria	Biological	50	Bacterial disease, riverine flood, viral disease, drought flash flood
		2 Benin	Hydrological	40	
		3 Senegal	Climatological	5	
		4 Ghana	Meteorological	4	
		5 Guinea			
		6 Sierra Leone			
		7 Togo			
		8 Gambia, the			
		9 Côte d'Ivoire			
		10 Liberia			
		11 Guinea-Bissau			
		12 Cabo Verde			
Northern Africa/ Arab Maghreb Union (UMA)	108	1 Algeria	Hydrological	63	Riverine flood, flash flood, ground movement, locust bacterial disease
		2 Morocco	Geophysical	14	
		3 Tunisia	Meteorological	10	
		4 Libya	Biological	9	
			Climatological	4	
Southern Africa/ Southern African Development Community (SADC)	593	1 Mozambique	Hydrological	37	Riverine flood, bacterial disease, drought, tropical cyclone, convective storm, flash flood, viral disease, ground movement, land fire
		2 Tanzania, UR	Biological	27	
		3 South Africa	Meteorological	19	
		4 Madagascar	Climatological	14	
		5 Angola	Geophysical	3	
		6 Malawi			
		7 Zimbabwe			
		8 Zambia			
		9 Namibia			
		10 Lesotho			
		11 Botswana			
		12 Swaziland			
		13 Mauritius			
		14 Seychelles			

* For the purpose of this report, each country is considered to belong to one REC to avoid complications in analysis arising from multiple REC memberships,

Source: Development Initiatives' table using EM-DAT data

Note: DRC = Democratic Republic of the Congo.

Disaster-affected countries

Somalia, Mozambique and Madagascar are the most risk exposed countries in Africa, according to the latest INFORM risk index (2016).

The Horn of Africa, south-west the Sahel regions of Africa are prone to drought, contrasting with the Indian Ocean islands and eastern coastal region, which face high tropical cyclone risks. Northern Africa is exposed to tectonic hazards, while most countries across the continent are prone to regular floods (Figure 1.6).

Flood-affected countries

The international database shows 668 flood occurrences recorded for Africa between 1985 and 2015, concentrated in countries such as Kenya, Ethiopia, Nigeria, Somalia and Algeria (Table 1.2). Nigeria faces the highest flood risk followed by Democratic Republic of the Congo (DRC), Egypt, Sudan and Somalia. A look at the national

TABLE 1.3

African countries ranked by highest number of flood occurrences, 1985–2015

Rank	Flood occurrence
1	Kenya
2	Ethiopia
3	Nigeria
4	Somalia
5	Algeria
6	Angola
7	Sudan
8	South Africa
9	Mozambique
10	Tanzania

Source: Development Initiatives' table using EM-DAT data

database, on the other hand, shows a total of 8,674 flood occurrences recorded by 18 African countries during the same period. Nigeria, Egypt, DR Congo, Sudan and Somalia are identified as high flood risk countries by the INFORM Risk index.

TABLE 1.4

African countries ranked by highest number of drought occurrences, 1985–2015

Rank	Drought occurrence
1	Ethiopia
2	Kenya
3	Mozambique
4	Somalia
5	Malawi
6	Niger
7	Burkina Faso
8	Djibouti
9	Namibia
10	Sudan

Source: Development Initiatives' table using EM-DAT data

Drought-affected countries

Of the 14 countries worldwide with the highest drought risk per INFORM, 13 of them are African nations. These are Djibouti with the highest risk followed by Somalia, Mauritania, Namibia, Eritrea, Cabo Verde, Sudan, Niger, Botswana, Zimbabwe, Burkina Faso, Mali and Ethiopia.

The international database records only 185 drought occurrences: 46 times less than those reported in the national database for the period 1985 to 2015. Regardless of disaster loss database, Ethiopia, Mozambique and Kenya are ranked among the five most drought-prone countries.

Epidemic-affected countries

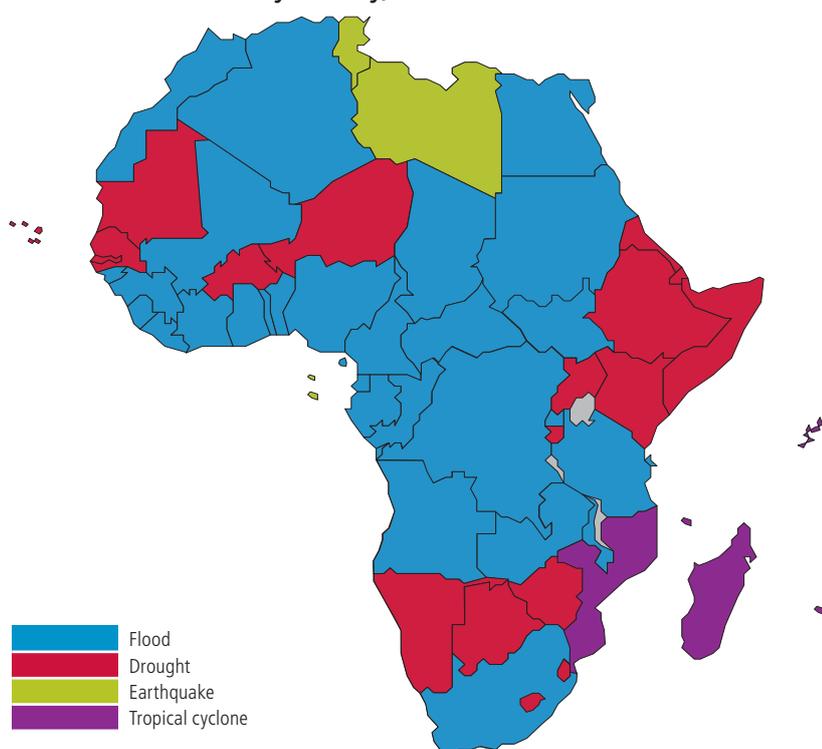
West and Central African countries are emergency spots for disasters caused by epidemic hazards as are some eastern Africa countries. A total of 751 disasters as a result of epidemics were reported in the international loss database between 1985 and 2015.

Tropical cyclone-affected countries

Tropical cyclones mostly affect the island nations of Madagascar,

FIGURE 1.6

Common natural hazards by country, 2015



Source: Development Initiatives' figure based on INFORM risk mid-2016 data (v.0.2.9)

Note: Data excludes tsunami risk. Map courtesy d-maps.com

TABLE 1.5

African countries ranked by highest number of epidemic occurrences, 1985–2015

Rank	Epidemic occurrence
1	DRC
2	Nigeria
3	Niger
4	Uganda
5	Kenya
6	Cameroon
7	Sudan
8	Tanzania
9	Chad
10	Mozambique

Source: Development Initiatives' table using EM-DAT data

Note: DRC = Democratic Republic of the Congo

Mauritius, Comoros, Seychelles and Cabo Verde, and the coastal countries of Mozambique, Somalia and Guinea-Bissau. EM-DAT, DesInventar and INFORM rank Madagascar, Mozambique, Mauritius and Comoros as the African nations that have recorded the most or are most at risk of tropical cyclones (see Table 1.6). This ranking is consistent with what has been reported in the national disaster databases, DesInventar.

TABLE 1.6

African countries ranked by highest number of tropical cyclone occurrences, 1985–2015

Rank	Tropical cyclone occurrences
1	Madagascar
2	Mozambique
3	Mauritius
4	Comoros
5	Somalia
6	Guinea-Bissau
7	Seychelles
8	Zimbabwe
9	Cabo Verde
10	DRC

Source: Development Initiatives' table using EM-DAT data

Note: DRC = Democratic Republic of the Congo

Earthquake-affected countries

Of the 50 earthquake events recorded between 1985 and 2015, a little over a quarter occurred in Algeria distantly followed by South Africa and Tanzania. In DesInventar where 18 African countries currently report disaster loss data, Tunisia recorded the most (35%) followed by Mozambique (25%), Egypt (17%) and Morocco (10%). Egypt, Libya, Algeria, Tunisia are ranked among the highest earthquake prone countries in Africa while the Great Rift Valley countries, Ethiopia, Kenya, Tanzania, Uganda and Djibouti, rank highest among the countries in the earthquake risk index.

Table 1.7 shows ranking of countries by highest earthquake disaster occurrence.

Tsunami-affected countries

Four countries, Kenya, Seychelles, Somalia and Tanzania, reported tsunamis of higher scale each once in EM-DAT while DesInventar recorded 26 tsunami occurrences, of which 23 were reported by Seychelles. Mauritius, Seychelles, Somalia, Tunisia, Madagascar, Egypt and Morocco, in that order, have the highest tsunami, as per INFORM risk index scores.

Disaster impact profile

Current risk simulation models point to rising economic losses due to the increasing value of assets exposed to hazards and to the rising occurrence of small disaster events that damage critical socioeconomic investments. This message recurs in successive global assessment reports.

However, counting losses from disasters is also often hampered by under-reporting. Reporting levels vary by not only type of disaster but also national income.⁸

Analysis of higher scale disaster occurrence and their impacts recorded in the international database, EM-DAT, at intervals of a few years, indicates that loss in human lives (including those missing) was lower between 2005 and 2015 (Figure 1.7A) while the number of people affected and injured was higher during the same period (Figures 1.7A and 1.7B). This could imply that during 2005 and 2015, which coincides with the adoption of the Hyogo Framework of Action, African countries' capacity to respond to disasters has been improving but not necessarily their capacity to reduce the risk caused from disasters. This is consistent with the findings on investment and financing for disaster risk reduction (DRR) (chapter 4) that more is spent on response than prevention and preparedness despite the increase in the occurrence of hazards.

The EM-DAT database indicates that the continent has been subjected to damages close to \$22 billion in the last 30 years due to disasters caused by natural hazards; these have had a death toll of more than 210,000 people, while 196,000 people have been injured and 400 million people have required immediate assistance. Deaths from disasters as a result of

TABLE 1.7

African countries ranked by highest number of earthquake occurrences, 1985–2015

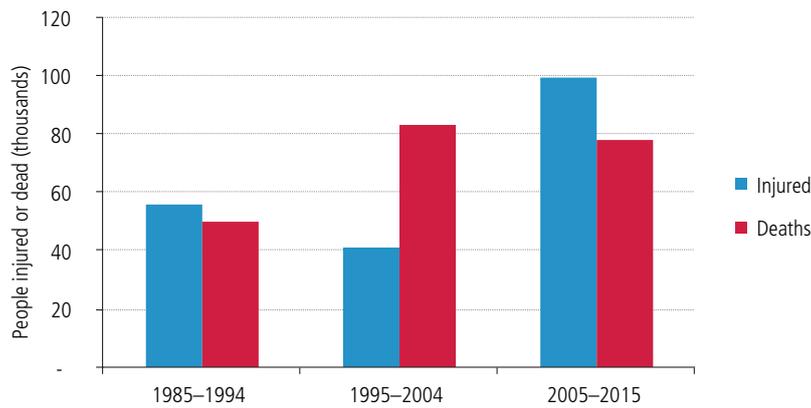
Rank	Earthquake occurrences
1	Algeria
2	South Africa
3	Tanzania
4	DRC
5	Uganda
6	Egypt
7	Malawi
8	Kenya
9	Rwanda
10	Sudan

Source: Development Initiatives' table using EM-DAT data

Note: DRC = Democratic Republic of the Congo

FIGURE 1.7A

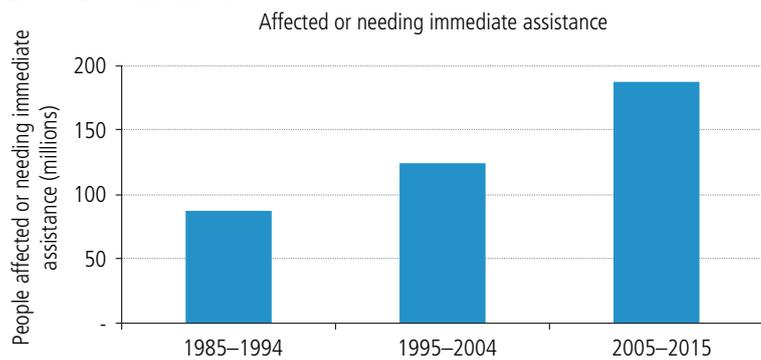
Total deaths and injuries from disasters for the periods 1985–1994, 1995–2004 and 2005–2015 in Africa



Source: Development Initiatives' figure using EM-DAT data
 Note: Total deaths includes both dead and missing people.

FIGURE 1.7B

People affected by disasters for the periods 1985–1994, 1995–2004 and 2005–2015 in Africa



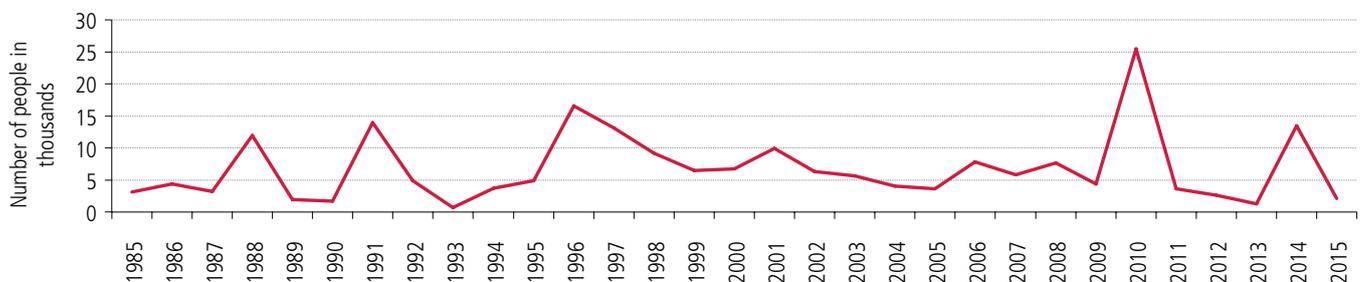
Source: Development Initiatives' figure using EM-DAT data
 Note: 'Affected' refers to the number of people who needed immediate assistance such as food, water, shelter, sanitation and medical assistance as a result of disasters triggered by natural hazards.

natural hazards were commonly from diseases except in 2010 (Figure 1.8A) where drought claimed 20,000 lives in Somalia. Drought affects millions of people, more than any other type of natural hazard. All the peaks in Figure 1.8B for people affected for the period 1985 to 2015 are due to droughts in the Sudan (1991), Kenya (1999 and 2011), Ethiopia (2003 and 2015), South Africa (2004) and Niger (2009). Estimated damage to property, crops and livestock were highest in 2003 and 2015 (see spikes in Figure 1.8C), as a result of an earthquake in Algeria in 2003 and drought in South Africa in 2015.

Small scale but extensive disasters are likely to have caused much more loss to the continent over the 30 years period than indicated in the international database. Disaster impact analysis for 18 African countries is presented in Table 1.8. A third of the continent's nations have reported \$3.5 billion direct damages and a death toll close to 110,000 people while more than 212 million people have been affected by disasters in some way in the last three decades.

FIGURE 1.8A

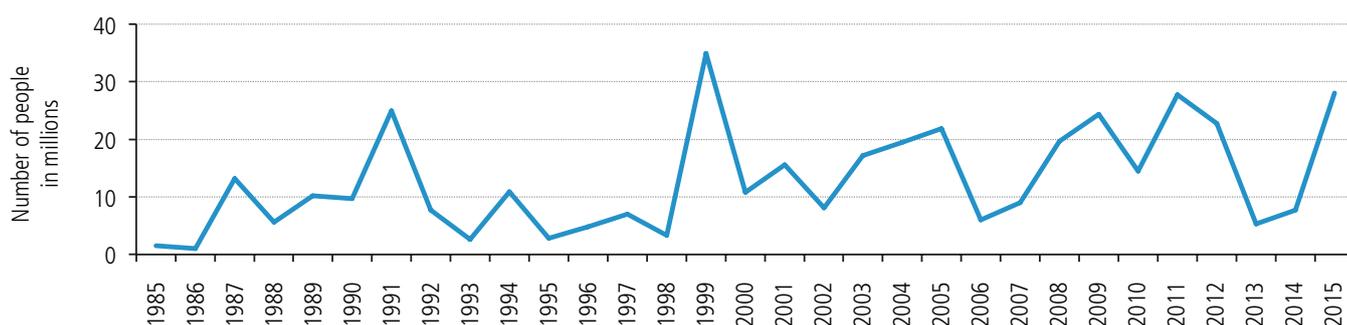
Total deaths as a result of disasters from natural hazards, 1985–2015



Source: Development Initiatives' figure using EM-DAT data
 Note: Total deaths includes both dead and missing people

FIGURE 1.8B

People affected by disasters from natural hazards in Africa, 1985–2015

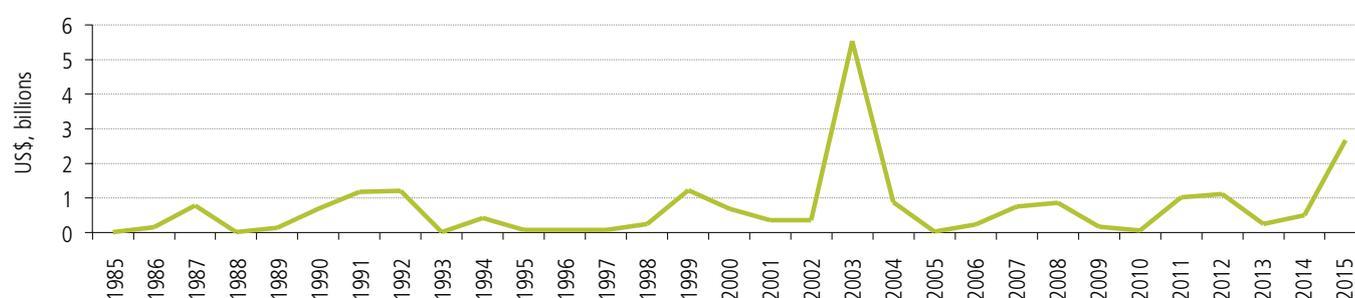


Source: Development Initiatives' figure using EM-DAT data

Note: Affected refers to the number of people who needed immediate assistance such as food, water, shelter, sanitation and medical assistance as a result of disasters triggered by natural hazards.

FIGURE 1.8C

Damage from disasters due to natural hazards in Africa, US\$, 1985–2015



Source: Development Initiatives' figure using EM-DAT data

Note: Damage refers to the amount of damage to property, crops, and livestock in US\$. Figures indicate true value to the year the event occurred.

TABLE 1.8

Type and amount of disaster loss in countries where data is available, 1985–2015

Damage category	Direct effect	Total direct losses
Human losses and exposure	Death	109,397
	Injured	21,058
	Missing	131,033
	Relocated	4,175,621
	Evacuated	1,360,539
	Affected	212,441,907
Crop and livestock	Damages in crops, Ha.	14,669,498
	Lost cattle	20,675,804
Infrastructure	Houses damaged	592,810
	Houses destroyed	1,747,882
	Hospitals	340
	Education centres	2,633
Economic	Roads (metres)	3,355,977
	Losses (US\$)	3,457,121,853

Source: Development Initiatives' table using DesInventar data

Note: Countries are: Comoros, Djibouti, Egypt, Ethiopia, Kenya, Madagascar, Mali, Mauritius, Morocco, Mozambique, Niger, Senegal, Seychelles, Sierra Leone, Togo, Tunisia, Uganda and Tanzania

Impact by major hazard types

Floods

Floods were the most frequently occurring hydrological events from 1985 to 2015, rendering many people homeless across Africa. Rising frequency of floods is expected to increase health risks, considering that sub-Saharan Africa had only 30% sanitation coverage in 2015⁹ and weak healthcare infrastructure and systems.¹⁰ The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC; 2014) warns of exacerbated vulnerability to vector- and water-borne diseases as a result

of the changing climate in Africa and the poor state of safe water, sanitation and environmental health.¹¹

Droughts

The international disaster loss database, EM-DAT, recorded only 463 drought events worldwide between 1985 and 2015, or 4.3% of total disasters from natural hazards worldwide, but these required emergency assistance for 1.6 billion people. During the same period, drought occurred in Africa more frequently than anywhere else in the world, accounting for about 40.6% of total drought occurrence, while 82% of global deaths as a result of drought occurred in Africa. This is despite several improvements being made to weather warnings and early warning systems.^{12,13} The death toll from drought could be higher since total disaster death counts exclude indirect deaths from drought-related malnutrition, disease and displacement.¹⁴

In the 18 countries with the national disaster loss database, DesInventar, drought affected more than half (55%) of the total number of people affected by all disasters combined and resulted in huge economic costs of up to 74% of total losses.

The impact of drought on agriculture in sub-Saharan Africa has a cascading effect on national economies (Box 1.3). After the 1991–2013 droughts, the continent counted a total loss of \$31 billion in crop and livestock production, with the highest losses – US\$19 billion – experienced in eastern Africa. In southern Africa, losses amounted to over US\$10 billion and in western Africa to US\$2.5 billion.¹⁵

Epidemics

EM-DAT shows that during 1985 to 2016, 25 epidemics were recorded each year, on average, killing more than 5,000 people and affecting close to

half a million people a year. DesInventar indicates that 75% of total deaths recorded were as a result of epidemics. Ebola has been frequently reported during 1985–2015 in countries including Congo, Democratic Republic of Congo, Gabon and Uganda, affecting around 1,800 people, only one-third of whom survived.

In the recent Ebola outbreak in West Africa, a total of 28,616 cases were reported in Guinea, Liberia and Sierra Leone, with 11,310 deaths.¹⁶

Disaster loss by country

EM-DAT ranks Somalia and Nigeria as the African countries with the highest total deaths and number of people affected by disasters caused by natural hazards. It ranks Algeria and South Africa as having the highest amount of total damage while Sudan and DRC accounted for the highest number of injured people – all for the period 1985 to 2015.

Disaster loss by region

The impact of disasters is felt the most in the Horn of Africa/Intergovernmental Authority on Development (IGAD) region, where there is a higher share of deaths and number of affected people

BOX 1.3

Potential impacts of droughts and floods on Malawi's economy

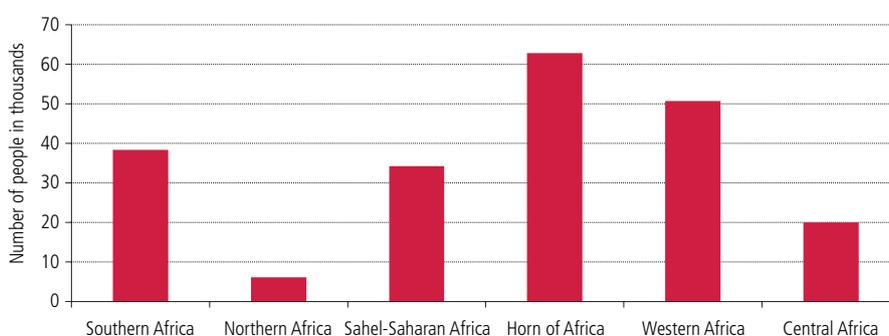
- 1.7% GDP lost on average each year
- GDP contracts by as much as 10.4% during extreme droughts, such as the 1991–1992 drought (a one-in-25-year drought)
- 1.3% increase in poverty, but this can be as high as 17% during a one-in-25-year drought, which is equivalent to 2.1 million people falling below the poverty line

Source: Global Facility for Disaster Reduction and Recovery, 2010, *Report on the status of Disaster Risk Reduction in sub-Saharan Africa*. World Bank

(Figures 1.9A and 1.9B). The region accounts for close to one-third of deaths and 46% of all people affected by disasters in the continent over the last 30 years. Southern Africa had the second-highest disaster loss in terms of deaths and exposure during the same period. Southern Africa (42%) and northern Africa (40%) recorded the most damage from total disasters in the region (Figure 1.9C).

FIGURE 1.9A

Total death from disasters due to natural hazards in Africa by region, 1985–2015

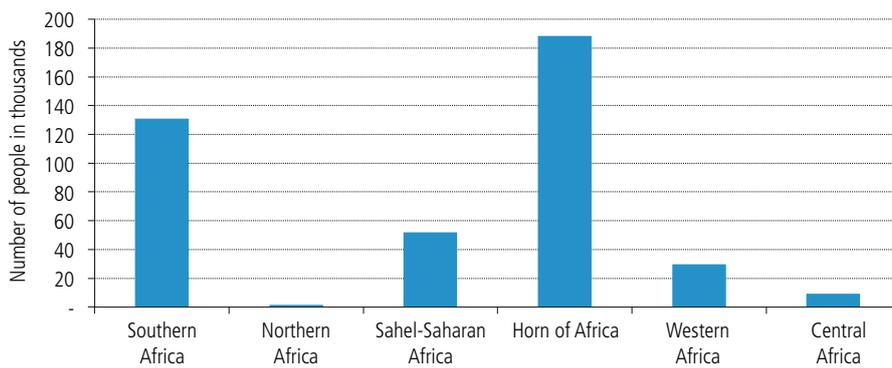


Source: Development Initiatives' figure using EM-DAT data

Note: Total deaths includes both dead and missing people. Regional grouping of countries in this report does not consider multiple memberships in different RECs. For the purpose of this report, each country is considered to belong to one regional economic community (REC) to avoid complications in analysis arising from multiple REC memberships. See Table 1.2 for list of countries and main RECs.

FIGURE 1.9B

People affected by disasters due to natural hazards in Africa by region, 1985–2015

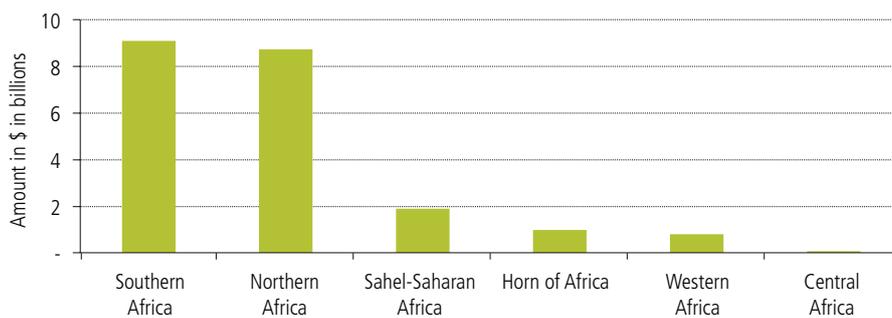


Source: Development Initiatives' figure using EM-DAT data

Note: Affected refers to the number of people who needed immediate assistance such as food, water, shelter, sanitation and medical assistance as a result of disasters triggered by natural hazards. Regional grouping of countries in this report do not consider multiple memberships in different regional economic communities (RECs). For the purpose of this report, each country is considered to belong to one REC to avoid complications in analysis arising from multiple REC memberships. See Table 1.2 for list of countries and main RECs.

FIGURE 1.9C

Damage from disasters due to natural hazards in Africa, US\$, 1985–2015



Source: Development Initiatives' figure using EM-DAT data

Note: Damage refers to the amount of damage to property, crops and livestock is US\$. Figures indicate true value to the year the event occurred. Regional grouping of countries in this report do not consider multiple memberships in different regional economic communities (RECs). For the purpose of this report, each country is considered to belong to one REC to avoid complications in analysis arising from multiple REC memberships. See Table 1.2 for list of countries and main RECs.

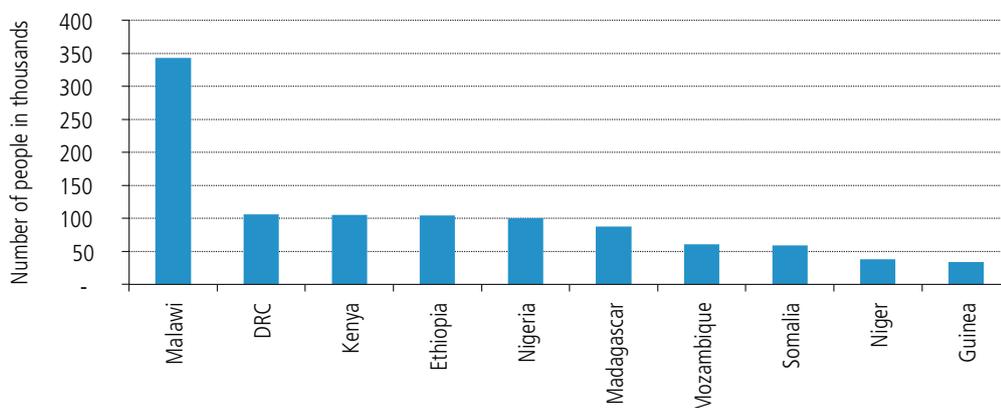
Internal displacement from natural hazards

Another impact of disasters from natural hazards is internal displacement. Between 2008 and 2014, the International Displacement Monitoring Centre (IDMC) estimated more than 14 million Africans were displaced. In 2015, a total of 1,129,951 people were displaced by disasters, most of who are from Malawi (30%).

Floods displace more people in Africa than any other disaster type. Of the 3.4 million people displaced internally between 2013 and 2015, about 95% were displaced because of hydrological disasters, specifically floods. The most affected countries were Sudan, Malawi, Niger, Kenya and Mozambique, accounting for half of displaced people during this period.

FIGURE 1.10

The 10 Africa countries with the highest disaster-induced internal displacement in 2015



Source: Development Initiatives' figure using International Displacement Monitoring Centre data

Note: DRC = Democratic Republic of the Congo

Annex: Terminologies

Hazard sub-group	Manifestation	Description
Geophysical or geological**	Earthquakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses, and debris or mud flows.	A hazard originating from internal earth processes. Hydro-meteorological factors are important contributors to some of these processes. Tsunamis are difficult to categorize; although they are triggered by undersea earthquakes and other geological events, they essentially become oceanic process that are manifested as coastal water-related hazards.
Meteorological*	Extreme temperature, fog, storm	A hazard caused by short-lived, micro- to meso-scale extreme weather and atmospheric conditions that lasts from minutes to days.
Hydrological*	Flood, landslide, wave action	A hazard caused by the occurrence, movement and distribution of surface and subsurface freshwater and saltwater.
Climatological*	Drought, glacial lake outburst, wildfire	A hazard caused by long-lived, meso- to macro-scale atmospheric processes ranging from intra-seasonal to multi-decadal climate variability.
Biological**	Venomous wildlife and insects; poisonous plants; mosquitoes carrying disease-causing agents such as parasites, bacteria or viruses (eg malaria).	A hazard of organic origin or conveyed by biological vectors, including pathogenic micro-organisms, toxins and bioactive substances.

* EM-DAT
 ** Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Related to Disaster Risk Reduction (OIEWG)

Disaster risk drivers in Africa

- Half of the countries with high risk profiles in the world are in Africa.
- The continent faces high disaster risks due to its low coping capacity, high vulnerability and high exposure to hazards.
- This report identifies climate change, poorly planned urbanisation, environmental degradation, poverty and inequality as well as fragility and conflict as the biggest disaster risk drivers across the continent. These are interlinked and at times may appear as both causes and consequences of disasters.
- Africa faces a huge challenge from climate change. About 22 African countries are highly vulnerable to climate change, often manifested through drought.
- Most (61.7%) of Africa's urban population lives in slums. Such informal settlements are often located in the most hazard-prone urban areas.
- In Africa, 45% of land area is affected by desertification and 55% of this area is at high or very high risk of further degradation. It is estimated that central and eastern Africa will lose 12 million hectares (ha) of forest by 2030 due to deforestation.
- Poverty and socioeconomic inequality increase vulnerability and undermine resilience. The richest fifth of the population of some African countries has more than 50% share of total income (or consumption).

Africa is highly exposed to disaster risk according to the INFORM Index for Risk Management,¹ where out of a total of 36 countries worldwide with 'very high' and 'high' risk profiles, half of them are African countries. Somalia, South Sudan, Central African Republic (CAR), Chad, Niger, DRC, Sudan and Ethiopia are ranked with the highest overall disaster risks; the first six of these not only have the highest vulnerability and hazard and exposure risk but also the worst coping capacity in terms of institutions and infrastructure (Table 2.1).

Unplanned urban development, vulnerable livelihoods and decline in ecosystems are referred to as the

'deadly trio' of disaster risk drivers, made deadlier by climate change.² In this report, interlinked factors are explored – climate change, poorly planned urbanisation, environmental degradation, poverty and inequality, and fragility and conflict – as the main disaster risk drivers in Africa, which also present themselves as consequences and/or accelerators of disasters.

Climate change

The IPCC panel of experts predicts that between 75 and 250 million Africans will be exposed to increased water stress due to climate change by 2020, while rain-fed agriculture yields could

be reduced by up to 50% in some countries during the same period.³

Mozambique, Sierra Leone, South Sudan, Nigeria, Chad, Ethiopia, CAR and Eritrea are ranked among the 10 countries globally facing the highest levels of risk in the Climate Change and Environmental Risk Atlas.⁴ The index considers exposure, sensitivity and adaptive capacity of sectors including water, health and infrastructure (coast, energy and transport). Of the 32 countries identified globally as the most vulnerable countries in the atlas, South Sudan, Chad, Ethiopia, CAR, Eritrea, DRC, Sudan and Burundi are at 'extreme risk' in the Food Security Risk Index and exhibit high levels of poverty and/or conflict and displacement.

TABLE 2.1

African countries' risk profile based on latest INFORM risk index

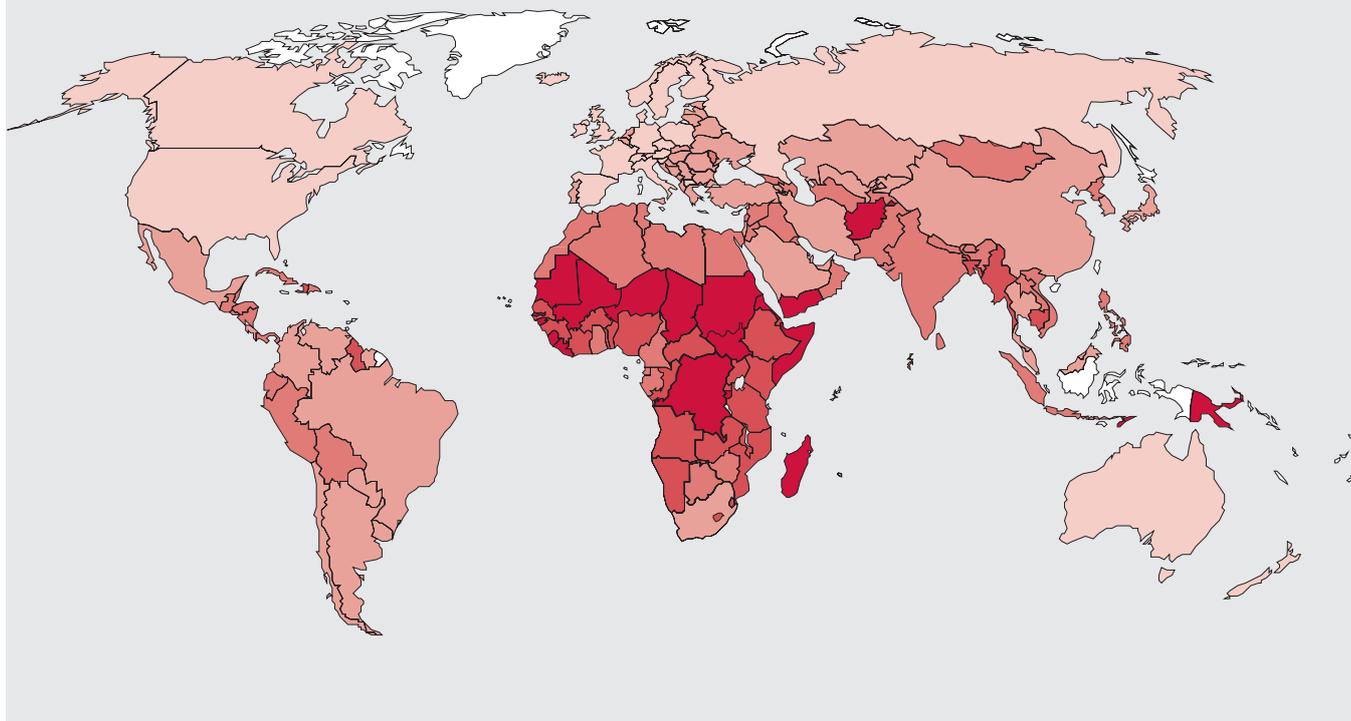
Global risk ranking	Country	Overall risk	Lack of coping capacity	Vulnerability	Hazard and exposure (natural and human)	Natural hazard and exposure
1	Somalia	8.9	9.2	8.7	8.8	6.2
2	South Sudan	8.7	9.2	8.9	8.0	2.4
3	CAR	8.3	8.7	8.3	7.8	1.4
5	Chad	7.7	9.0	7.4	6.9	2.8
7	Niger	7.4	7.9	7.4	7.0	3.0
8	DRC	7.2	8.1	7.4	6.1	2.9
9	Sudan	7.1	7.3	6.9	7.1	3.5
14	Ethiopia	6.5	7.2	7.2	5.4	3.8
16	Libya	6.4	7.0	4.5	8.3	4.2
15	Burundi	6.4	6.3	6.9	5.9	2.5
17	Nigeria	6.3	6.6	5.6	6.8	2.3
18	Mali	6.2	6.8	6.4	5.4	3.2
20	Kenya	6.1	6.5	6.0	5.8	4.2
21	Cameroon	6.0	6.0	5.5	6.7	2.1
23	Mozambique	5.8	6.8	6.1	4.7	6.0
29	Uganda	5.4	7.1	6.2	3.5	3.1
35	Mauritania	5.0	7.6	4.8	3.5	3.1
36	Guinea	5.0	7.0	5.4	3.4	4.5
	Very high					
	High					
	Medium					
	Low					

Source: Development Initiatives' table using INFORM Risk Index mid-2016 data v.0.2.9

Note: CAR = Central African Republic, DRC = Democratic Republic of the Congo

Depicted for countries where data is available

FIGURE 2.1
Climate vulnerability, 2014



Level of vulnerability	Descriptive category	Quintile	Range of included scores
Most vulnerable countries	Vulnerable countries	5	>6
		4	0.5–0.6
		3	0.4–0.5
		2	0.3–0.4
Least vulnerable countries		1	<3
No data	No data	0	N/A

Source: Development Initiatives’ figure using Notre Dame Global Adaptation Index (ND-GAIN) vulnerability score data⁵

Notes: Vulnerability scores are normalised between 0 and 1 on a linear scale. To help distinguish countries, countries have been further categorised into quintiles based on the range of ND-GAIN vulnerability scores in 2014. This allows us to characterise countries descriptively, from the ‘least vulnerable’ (lower quintile) to the ‘most vulnerable’ (upper quintile). Countries with scores above 5 (upper two quintiles) are described as vulnerable.

Map courtesy d-maps.com

Scientific evidence indicates warming over Africa’s landmass in the last 50 to 100 years.⁶ The IPCC (2014) report indicates that overall temperatures have been rising in all corners of the continent. Annual and seasonal trends in North Africa show overall warming; while north-western Sahara experienced 40 to 50 heat wave days every year between 1989 and 2009. In Central Africa, climate change has been the cause of unusual floods, storms and wildfire.⁷

According to IPCC’s Fifth Assessment Report,⁸ eastern Africa has recorded a significant increase in seasonal average temperature for the last five decades. Rapid warming of the Indian Ocean is suspected to be the cause of less than expected rainfall between March and May/June in the last three decades in the region, contributing to spring and summer droughts over the past three decades. According to the same report, West Africa has also been experiencing rising

temperatures in the last 50 years, resulting in a significant increase in the temperatures of the hottest and coolest days in most parts of West Africa, and drought in the region. Similarly, southern Africa has been experiencing more frequent dry spells and hot days, also projected to increase further in the future.

The IPCC predicts extreme weather events to grow in frequency and intensity.⁹

BOX 2.1**Projections for end of the 21st century**

North Africa: Likely increase in the frequency of hot days across the Sahara; and temperatures will be higher during the northern hemisphere summer.

Sahel and West Africa: Projections indicate unprecedented changes in climate will occur earliest in these regions, by the late 2030s to early 2040s. Regional modelling suggests an increase in more intense and more

frequent extreme rainfall events over the Guinea Highlands and Cameroon Mountains.

East Africa: Maximum and minimum temperatures over equatorial East Africa will rise and there will be warmer days compared with the baseline by the middle or end of this century. Projections also suggest that there will be a reversal of historical trends by the end of the 21st century

to more intense wet seasons and less severe droughts.

Southern Africa: Warming in southern Africa in all seasons is likely to exceed average global warming. During the 21st century and beyond, the risk of severe droughts in south-western regions will be high and there will be an increase in the area affected by drought.

Source: IPCC, 2014, based on medium to high emissions scenarios

Poorly planned urbanisation

Africa is the least urbanised continent in the world despite a close to 40% increase in the number of urban dwellers within the past three decades.¹⁰ However, it is the fastest urbanising continent, with the highest average annual increase of the urban population at 3.6%, more than the world average (2.1%). In 1985, only about 29% of Africans lived in urban areas and by 2015 this had increased to 40.4%.

Disaster risk driven by climate change is closely linked to unplanned urbanisation. Close to 62% of Africa's urban population lives in slums. Many informal settlements lack adequate supplies of basic infrastructure and social services and are often located on the most hazardous urban land.¹¹ Nairobi, Lusaka, Praia, Algiers, Dar es Salaam, Ibadan, Accra, Luanda and Lagos, for instance, find it difficult to match their demographic growth with expansion in infrastructure and services.¹² Informal settlement dwellers are at higher risk, particularly of weather-related hazards, due to substandard

buildings and lack of drainage. By 2050, the UN Department of Economic and Social Affairs projects that 60% of Africans will live in urban areas, an indication that the number of slum dwellers and informal settlers will also grow much higher. In a situation where there is little proper planning in housing, infrastructure and services to accommodate the fast rising number of urban dwellers, poor people are likely to be left behind, particularly women and young people who risk social and economic exclusion, and are vulnerable to disasters.

Environmental degradation

Increased human activity, either due to rapid population growth, unplanned urbanisation or both, hastens natural resource degradation resulting in increased disaster risks. As much as environmental degradation is a disaster risk factor, it can also be a consequence of disaster, for instance the 1982–1985 drought had a great effect on land degradation and desertification.¹³ The United Nations Environment Programme (UNEP) classifies environmental degradation as a hazard itself.¹⁴

TABLE 2.2

Deforestation and land degradation pressure

Deforestation and degradation prone region	Countries	Primary cause of deforestation and/or degradation
Congo Basin	Cameroon, CAR, DRC, Congo, Guinea and Gabon	1. Shifting cultivation 2. Fuel wood
Eastern Africa	Kenya, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe	1. Small-scale agriculture and in-migration 2. Livestock expansion 3. Uncontrolled fires associated with human activity 4. Illegal logging for charcoal use

Source: World Wildlife Fund, 2015

Note: CAR = Central African Republic; DRC = Democratic Republic of the Congo

Of Africa's land area, 45% is affected by desertification while 55% of this area is at high or very high risk of further degradation.¹⁵ Rapid increase in transportation infrastructure and oil, gas and mining projects in the continent is expected to further exacerbate deforestation and degradation.

Countries identified with serious erosion include Sierra Leone, Liberia, Guinea, Ghana, Nigeria, DRC, CAR, Ethiopia, Senegal, Mauritania, Niger, Sudan and Somalia. The continent remains vulnerable to land degradation and desertification.¹⁶

Deforestation and soil degradation are major drivers of environmental degradation in central and eastern Africa¹⁷ (Table 2.2). Deforestation rates in the Congo Basin are reportedly at a record low but degradation is an increasing problem. DRC has the highest deforestation, at 6–7 million ha since 2000, followed by Cameroon and Equatorial Guinea. Between 2000 and 2012, deforestation in eastern Africa was estimated to be around 6 million ha or 60,000 sq km (more than the size of Togo) with the most deforestation in Mozambique (2.2 million ha), Tanzania (2 million ha) and Zambia (1.3 million ha). The World Wildlife Fund (WWF) estimates that by 2030 the two regions will lose 12 million ha of forest – almost equivalent to the size of Togo, Equatorial Guinea and Guinea Bissau combined.

Poverty and inequality

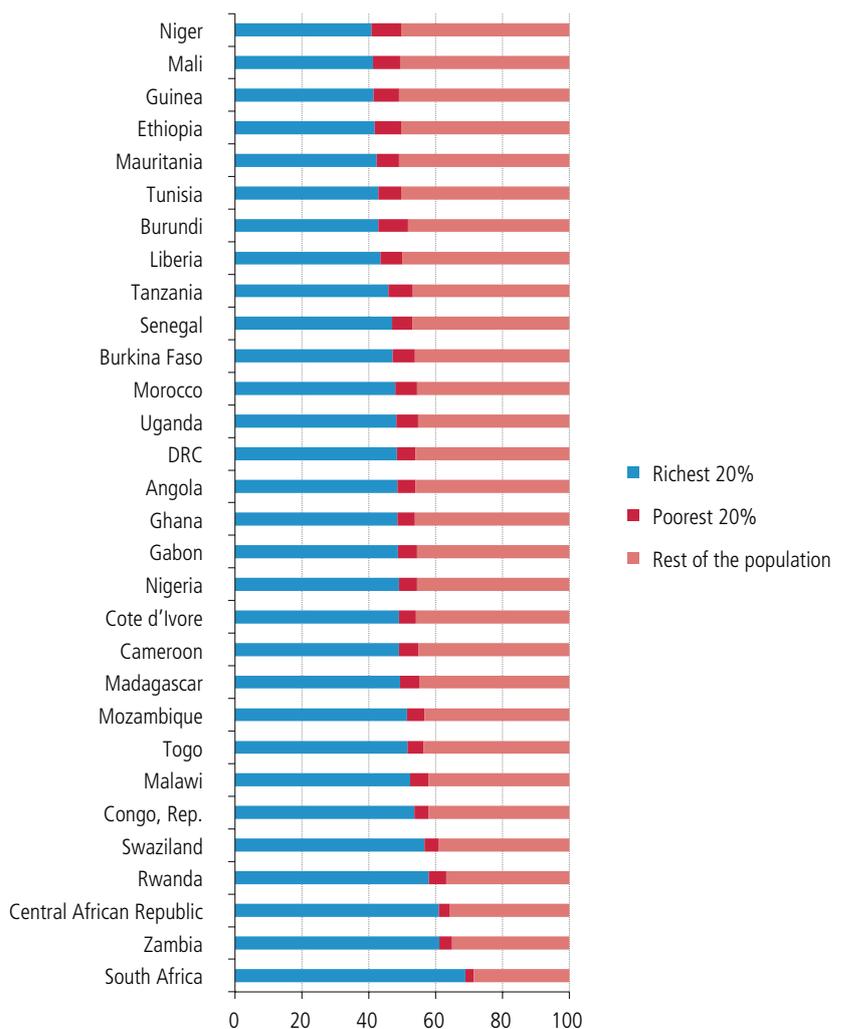
Many disaster risk drivers are intrinsically linked to poverty. Furthermore, the major determinants of death from disasters are more likely due to levels of development than exposure to hazards. More than three times as many people on average have died because of disasters caused by natural hazards in low-income countries than in high-income countries in the past 20 years.¹⁸

The relationship between disaster risk and poverty is two way: disaster risk will continue to rise unless poverty and underlying inequality are addressed; at the same time, disaster losses exacerbate poverty and undermine sustainable development and poverty reduction.¹⁹ The continent's vulnerability – linked to poverty and structural issues – is caused and expressed by limited financing for risk reduction and recovery, high reliance on rain-fed agriculture, limited institutional capacities, and weak infrastructure to manage resources and recover from disasters.²⁰

A recent World Bank study finds that despite decline in the share of Africans in extreme poverty from 57% to 43% between 1990 and 2012, the number of Africans living in extreme poverty increased by more than 100 million during the same period.²¹ Despite a decline in the share of Africans in extreme poverty from 57% to 43% between 1990 and 2012, the number of Africans living in extreme poverty increased by more than 100 million during the same period. The same study projected the world's extremely poor people to be increasingly concentrated in Africa as a result of rapid population growth.

FIGURE 2.2

Income share held by the richest 20%, poorest 20%, and the rest of the population in Africa



Source: Development Initiatives' figure using data from the Poverty and Equity Database, World Bank
 Notes: Depicted for countries where data is available. Accessed on 14 December 2016.
 DRC = Democratic Republic of the Congo

Despite Africa hosting six of the thirteen fastest-growing nations in the world²² and seeing strong economic growth in the last decade, the trend may not signify sustainable development and reduced inequality.

Africa's dual economies including strong informal sectors are also part of the inherent structural weakness of the continent in relation to sustainability.²³ IPCC's Fifth Assessment Report paints a grim picture of the sustainability of Africa's recent gain in economic growth since development gains have been made in climate-sensitive sectors.²⁴ Figure 2.2 shows the degree of income inequality in 30 African countries with the richest fifth of the population having a disproportionately much higher share of total income (or consumption) than the poorest 20%.

Disasters are known to increase income inequality; while inequality drives vulnerability. Poorer households tend to be hardest hit by the impact of disasters. Inequality is also linked to other risk drivers, such as living in informal settlements, climate change,

over-consumption of natural resources and uneven economic development.²⁵

Poverty and socioeconomic inequality increases poor people's vulnerability and exposure to natural hazards and undermines their resilience in the face of disaster. Poor people are often forced to settle in hazard prone areas and use their limited resources to cushion from disaster risks or losses, which drive them deeper into poverty, given that social protection is inadequate or even non-existent, and livelihoods and income are unstable.

Fragility and conflict

Recurrent drought, dwindling availability of and access to grazing land and scarce water and resources – manifestations of environmental degradation and climate change – often trigger or fuel inter-communal clashes.

There is evidence to suggest that there is strong link between climate change and civil conflict in Africa. Burke et al (2009) established that there is

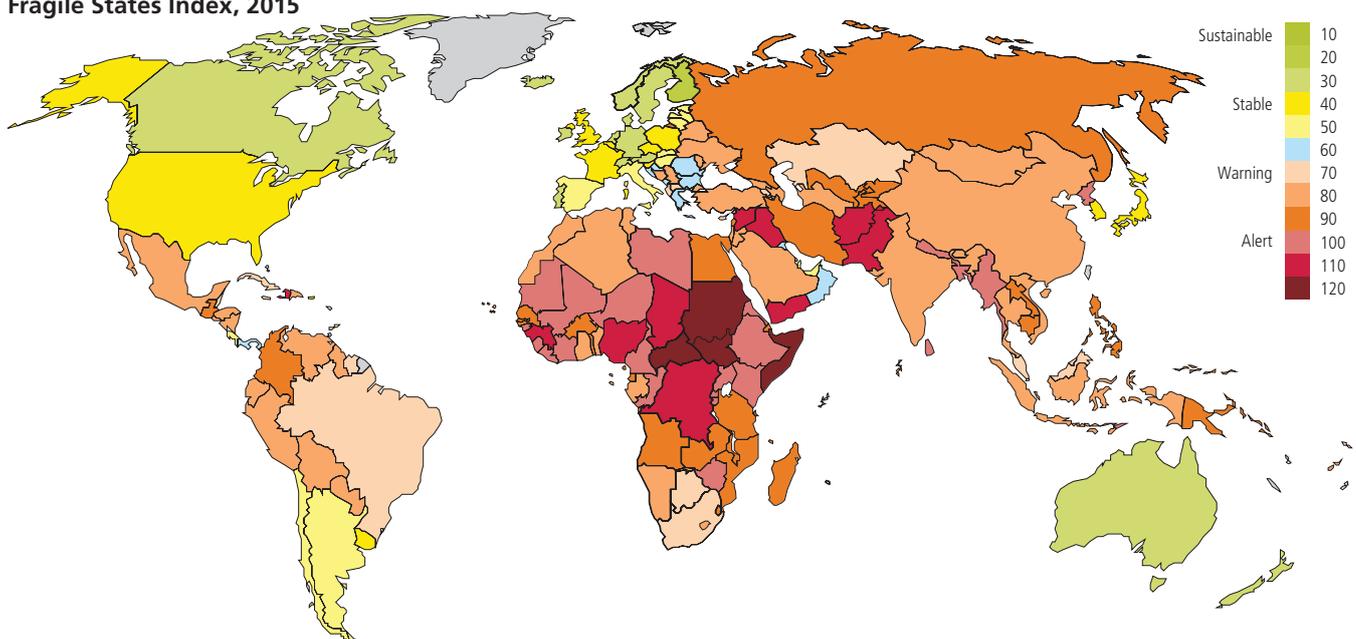
Amid the diverse social and political causes, the Darfur conflict began as an ecological crisis, arising at least in part from climate change.

Ban Ki Moon, UN Secretary General²⁶

'warming-induced conflict risk' in Africa and predict a 54% increase in armed conflict incidence by 2030 if temperatures continues to rise linearly.²⁷

Internal displacement in search of water, pasture and/or peace exacerbates communal competition and conflict over scarce resources. Displacement as a result of disputes can also lead to settlement in hazard prone areas. Conflict in itself can turn natural hazardous events into disasters as it poses difficulty to disaster risk reduction, preparedness and response and weakens resilience. Furthermore, the collision of disaster and conflict worsens gender vulnerabilities and gender-based violence, particularly in a continent where gender inequality is the highest in the world (see chapter 3).

FIGURE 2.3
Fragile States Index, 2015



Source: Development Initiatives' figure using data from the Fund for Peace Fragile States Index
Map courtesy d-maps.com

BOX 2.2

Conflict, fragility and disaster

Disaster can lead to conflict

- Drought and environmental degradation have been found to be among the root causes for displacement and conflict in Sudan.²⁸
- Regular disputes occur in Sahel countries over water, land and fish catches surrounding Lake Chad, which has shrunk by 90% from its original size since 1963 due to climate change, resource misuse as well as population growth. As a result of receding water and dwindling resources, numerous conflicts have been reported among pastoralists, farmers and fishermen in surrounding countries.²⁹
- Matabeleland North in Zimbabwe and the Zambezia Province in Mozambique are likely to experience climate-induced conflicts due to increasing water scarcity and

intensified flooding, sea-level rise and coastal erosion, respectively³⁰ resulting in increased competition for remaining scarce resources.

- The 2011 drought in the Horn of Africa heightened concerns over increasing levels of violence between two districts in Kenya, as animals owned by pastoralist groups from Isiolo continuously encroached on farmland in Meru, while animals in Meru were increasingly facing inadequate grazing land and water.³¹
- Darfur, the Sahel, the Horn of Africa, DRC and northern Kenya are identified as potential flashpoints for risk of violent conflict due to vulnerability to climate change effects, declining water resources and size of arable land³² – leading to competition among pastoralists for limited resources.

Fragility and conflict aftermath can increase disaster risk

- Following the creation and growth of internally displaced person (IDP) camps in Darfur and the presence of UN/African Union Mission, increased pressure and over-exploitation of limited wood and water resources have been observed.³³ This shows that conflict exacerbates vulnerability to disaster, which in turn could potentially lead to more conflict.

Collision of natural hazards and conflict together with poverty can lead to catastrophic disaster

- Prolonged drought between 2010 and 2012 in Somalia in addition to conflict and poverty turned into a complex emergency and famine and led to huge displacement.³⁴ In July 2011, the UN declared a famine in southern Somalia, which left half of the country's population in a humanitarian crisis.³⁵

Status of Africa's implementation of the Africa Regional Strategy for DRR and the HFA

- While African countries report having integrated disaster risk reduction (DRR) into national plans; limited political commitment and limited domestic resource allocation (see chapter 4 on domestic resource allocation) towards DRR still inhibit its proper implementation.
- The most challenging aspect of DRR in the continent has been reducing risk factors. This requires long-term efforts. Countries are putting in place and expanding social protection programmes to mitigate exposure of populations to risks and hazards but the level of coverage remains limited.
- At the regional level, coordination of DRR programmes to reduce transboundary risk has improved compared with previous cycles. However, limited political will and financial resources continue to constrain programme implementation.
- At the national level, progress has also been constrained by limited resource availability. Planning and resource allocation scarcely incorporates costs and benefits of DRR and there are limited options for its financing. It mostly draws from public contingency funds where it is one of several priorities competing for the limited resources available in the fund.
- A large number of countries are incorporating gender in their planning, but significant efforts are still required to embed gender equality across disaster-related projects. Along with capacity and methodologies for collecting disaster gender-disaggregated data and conducting local context analyses, there is a need for evidence to understand the role of approaching programming from a gender perspective. This will include understanding the role and impact of women in crises and how this feeds into achieving wider goals.
- Overall, progress has been slow in the implementation of the Hyogo Framework for Action. Many of the issues and challenges in the 2011–2013 reporting period still prevail in the 2013–2015 reporting period.

Introduction

Having set the context of Africa's profile on disasters and its drivers, this chapter outlines Africa's progress in implementing the Africa Regional Strategy for Disaster Risk Reduction while and the Hyogo Framework for Action (HFA) in the 2013–2015 cycle. In this chapter, Africa's progress is measured under the HFA priority areas but additional focus is also placed on the cross-cutting issues of gender and poverty. The HFA and the Africa Regional Strategy for Disaster Risk reduction are strongly aligned. Thus progress against the HFA priority areas also reflects progress against objectives of the Africa Strategy on DRR. Figure 3.1 illustrates the alignment between the HFA and Africa's Strategy on DRR.

This is the last cycle of HFA and here progress against previous cycles is compared. However, the comparisons are greatly constrained by availability of consistent country data across all the reporting cycles.

In reference to chapters 1 and 2, it is worth noting that Africa has experienced reduced number of disasters across the HFA cycles. The 2013–2015 cycle recorded the least

BOX 3.1

Data sources

Data and information used in this chapter are obtained from various sources but primarily the UNISDR reports on HFA implementation and HFA national progress reports of the 35 countries that reported in the 2013–2015 cycle. This is information obtained from the Preventionweb¹ resources.

The National Progress reports are submitted by nationally designated focal points. As such, they are self-assessments that have the potential to be biased. The use of qualitative ranking or scoring in this chapter is limited as much as possible, as this may not reflect the true picture on the ground. Rather, their narrative responses in the reports have been relied on, and a content review/analysis of those narratives to tease out substantive issues has been conducted.

At various stages, case studies of country successes or examples as

well as extract references from the country reports are presented.

Key informant interviews with some representatives of countries that did not report in the 2013–2015 cycle were conducted and interviewees' feedback as case studies or quotes are presented.

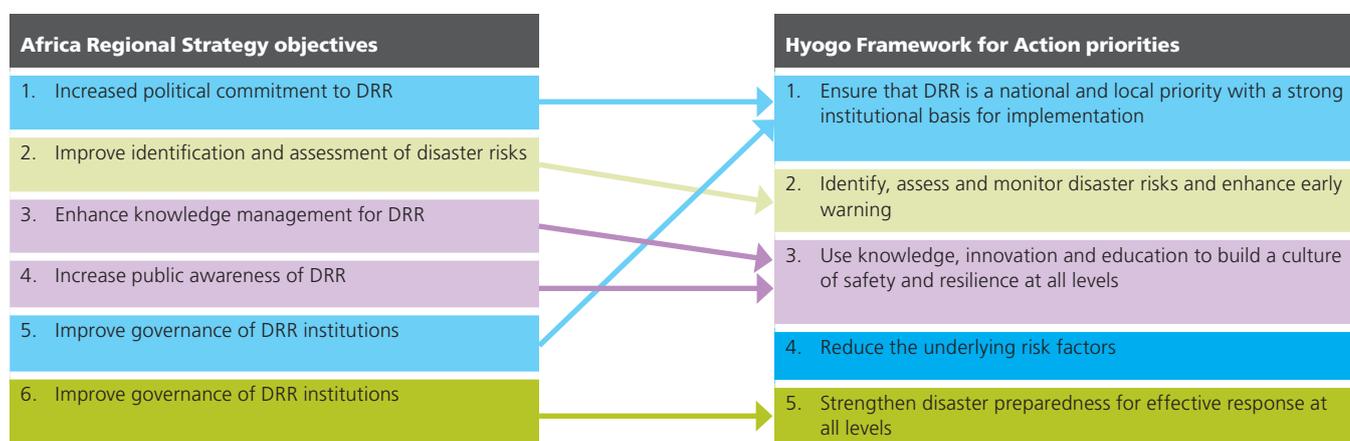
The main documents referenced in this chapter are:

1. HFA national progress reports (2013–2015 cycle)
2. Regional progress reports presented at the 7th, 8th and 9th Sessions of the Africa Working Group on Disaster Risk Reduction
3. UNISDR publication: *Progress and Challenges of Disaster Risk Reduction* (2014)

Other literature reviewed is referenced in endnotes.

FIGURE 3.1

Alignment between objectives of the Africa Regional Strategy on DRR and the HFA priority areas



Source: UNISDR, *Disaster Risk Reduction in Africa: Status report on implementation of Africa regional strategy and Hyogo Framework for Action, 2014*

number of disasters (182) of all cycles. However, the amount of damage caused by these occurrences remains high. The entire HFA period (2005–2015) has seen a larger population affected and injured than had been recorded in previous years. That notwithstanding, the HFA period was also marked by strengthening of disaster loss information, including through the nationally-reported loss accounting systems. The increase in disaster losses could thus also be attributed to increased reporting.

Due to Africa’s low coping capacity, high vulnerability and exposure to hazards, Africa will continue facing high disaster risk. Close to 40% (22 countries) of the continent has high vulnerability to climate change. More than half (61.7%) of the urban population live in slums that are often located in hazard-prone areas. More importantly, poverty and inequality remain key drivers of disaster risk.

Africa’s progress in disaster risk reduction

Overall, progress has been slow in the final period of implementing the HFA in Africa. Many of the issues and challenges in the 2011–2013 reporting period prevail in 2013–2015. Despite this slow progress, sections of the continent show indications of shifting away from a reactive response towards proactive risk reduction. In the reporting period 2013–2015, regions as well as countries have continued to make progress in early warning and preparedness.² However, technical capacity and resource constraints remain.

Progress at a regional level

The reports show that more countries are integrating regional and transboundary risks in their DRR strategies. There is good participation in actions to reduce disaster risk with about half of the countries having regional and subregional systems

TABLE 3.1

Reporting on regional and transboundary risk management

	Number of reporting countries	
	In place	Not in place
Participating in regional or subregional actions to reduce disaster risk	32	3
Establishing and maintaining regional hazard monitoring: subregional risk assessment; subregional early warning	23	12
Establishing and implementing protocols for transboundary information sharing	20	15
Establishing and resourcing regional and subregional strategies and frameworks	19	16

Source: Development Initiatives based on national progress reports

for hazard monitoring (risk assessment and early warning).

Regional strategies and frameworks on DRR provide a basis for improving coordination of DRR across the continent. While there are efforts in establishing these across the regions, much of the challenge has been in ensuring these are well resourced to guarantee their sustainability.

In part, limited resourcing is due to what countries report to be a lack of political will among political decision-makers in the continent. This has led to their limited involvement in decision-making on DRR matters including allocation of domestic resources to DRR (see chapter 4 on domestic resource allocation). Conversely, limited resource allocation to DRR constrains initiatives to build political will.

Implementation of the HFA has not been uniform across the regions. The success and challenges are presented below.

Success of Regional Economic Commissions (RECs) in regional and transboundary risks

DRM policies and processes in place

In the Intergovernmental Authority on Development (IGAD), Economic Community of Central African States (ECCAS), Economic Community of

West African States (ECOWAS) and the East African Community (EAC) regions, DRR policies and programmes are in place. These include DRR platforms at the regional level, which support the adoption of the DRR policies. For IGAD in particular, there are mechanisms established at the ministerial and Technical Advisory Committee levels to support DRR programmes. In addition, the recent adoption of the SADC Regional Disaster Preparedness and Response Strategy is a welcome move to strengthen coordination for effective disaster preparedness and response.

In the EAC and Community of Sahel–Saharan States (CEN-SAD) regions, there are systems in place to ensure that DRR is mainstreamed into specific policies like climate change, livestock, food security, water, agriculture and transport. The EAC for instance established a Disaster Risk Reduction Parliamentary Platform in 2015 to assist in aligning the existing national and regional structures to the Sendai Framework, among other functions.

The EAC is also the first REC to enact DRR legislation. Its Disaster Risk Reduction and Management Bill enacted in March 2016 was a culmination of a process that started in 2013. The EAC delayed

the enactment in order to have necessary laws and protocols in place, such as ratifying the EAC Protocol on Peace and Security, to support the implementation of Disaster Risk Reduction and Management Act.

Knowledge sharing on DRR matters at the regional level

Across the reporting period, all RECs have both organised and facilitated subregional Platforms on DRR to enhance knowledge sharing within and among their member countries. The Southern African Development Community (SADC) is for instance in the process of completing a web portal, which will include national and regional inventories of DRR capacities. The IGAD publishes hazard mapping on a regular basis to highlight potential risk areas and provides training to Member States, while ECCAS conducts information sharing consultations to establish mechanisms to manage transboundary disasters. It has also established a regional climate centre and a regional school for civil protection. The Arab Maghreb Union (UMA) reports that there is better coordination with neighbouring countries on tsunami simulations and action towards controlling locust infestation.

Financing mechanisms to support DRR at the regional level

IGAD has established a Disaster Response Fund³ although the fund does not have any resources allocated to it yet. ECOWAS reports to have increased and committed resources to support 11 Member States in establishing and strengthening national platforms for DRR.

Challenges for regional economic communities in managing regional and transboundary risks

Limited political will and culture towards DRR

Most RECs report that the culture of preparedness is still not strong enough in Africa. There is more of a reactive approach to disasters than a comprehensive proactive approach. This is in addition to low knowledge and understanding of risks and the political will to prioritise DRR – both at the country and at bilateral levels. This culture change is important to strengthen the resilience of communities and support addressing the root causes of disasters.

IGAD, for instance, has a regional parliamentary forum concerned with DRR issues that has been inactive since 2011 when it was established due to resource constraints.

“In order to move the process of legislation for DRR policies forward, it would be good to have an active regional parliamentary forum in place. The last parliamentary forum was in 2011. Institutional building normally requires resources, and the main reason why the Regional parliamentary forum has not kicked off is resources. IGAD depends heavily on external resources. In 2017, there is need to reactivate the parliament and to come up with a clear mandate”

Disaster Risk Management Program Manager, IGAD Climate Prediction & Application Centre

Data limitations and the lack of DRR data standards

Regions like CEN-SAD need to develop data and information exchange

systems in order for this to inform decision-making. Most regions also report a lack of standard risk assessment frameworks that enable comparison of risks across countries, especially for common hazards. This limits knowledge and information sharing.

Limitations in capacity: both human and financial

The drought of 2015–2016, which affected Southern Africa, was a test that showed the need to strengthen existing systems for disaster preparedness and response in SADC. Country-level DRR teams also report that capacity of government staff to mainstream DRR into development plans is low – this same pattern is seen in IGAD, EAC and ECCAS.

ECOWAS reports that establishing a regional disaster observatory and emergency operations systems for early warning, preparedness and response to disasters (floods) would be beneficial in ensuring that information is available to inform disaster preparedness.

On the financial side, all RECs report insufficient funding towards DRR. The CEN-SAD structures are struggling because member contributions are not sufficient for the DRR needs of the region. In EAC, the financial allocations tend to target response over preparedness. At IGAD level, there is an interest to ensure that funding for DRR is mobilised among member countries to result in less aid dependency.

Progress at country level

Like at the regional level, progress at country level has been slow, with many of the issues and challenges of the previous reporting period prevailing. Countries have incorporated DRR in their planning and legal frameworks,

but limitations in financing DRR, institutional and technical capacities remain – especially concerning reducing underlying risk factors.

Ensuring that disaster risk reduction is a national and a local priority

African countries have registered progress in drafting, promulgating and implementing DRR laws and 85% of the reporting countries have legislation or regulatory provisions in place for DRR. Most countries report that DRR is integrated into national development plans and poverty reduction strategy papers, as well as their sector plans.

The large proportion of countries incorporating DRR into climate change and poverty reduction indicates a growing recognition of the global challenges and the relationship between DRR and poverty reduction – a key objective of the 2030 Agenda for Sustainable Development and Africa’s Agenda 2063. However, similar to the 2011–2013 reporting period, gaps remain in operationalising DRR incorporation guidelines. In most countries, this is because of significant limitations in financing and capacity for their implementation.

The aforementioned pattern is consistent with the nature of progress in HFA Priority 1 that seeks to ensure DRR is a national and local priority with a strong institutional basis for implementation. Countries have registered substantial achievement across all core indicators except for core indicator 1.2 that seeks to have dedicated and adequate resources available to implement DRR plans and activities at all administrative levels. Here, systematic policy and institutional commitment remains limited in one third of the countries (12 out of 35 that reported). In some countries (such as Lesotho and Togo), limited signs of forward action in plans or policy is reported.

DRR as a local priority

In designing and implementing effective DRR strategies, community participation is invaluable as it incorporates knowledge of the people affected by disaster into the plans. Community participation goes hand-in-hand with subnational government involvement in DRR, as decentralisation of the implementation of DRR plans is crucial to their effectiveness and efficiency.

More than half of the countries that reported (19 out of 35) indicated

that subnational administrations/ authorities have a DRR mandate, and that these mandates are supported through budget allocations. Furthermore, there is formal subnational legislation in countries such as Botswana, Djibouti, Kenya, Malawi, Nigeria, Senegal, Sierra Leone, Tanzania and Zambia in the form of subnational DRR offices/ bodies and plans.⁴

“We have found that the paramount chiefs are quite engaged in DRR. There have been initiatives that enabled the chiefs to get training. Last year, we sent about 50 paramount chiefs to Ghana for training. The Ebola Crisis has also brought in lessons on ensuring the subnational level is involved in disaster preparedness”

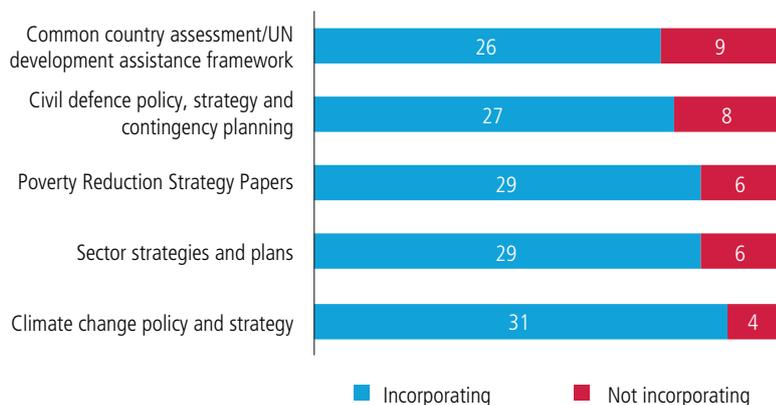
Director, Disaster Management, Office of National Security, Sierra Leone

Challenges of implementing legislative provisions have, however, been reported in various countries. Kenya’s constitution, for example, has DRR as a national and subnational governments’ function. It means preparedness and response should be carried out by both governments. However, coordination and accountability have been difficult to attain. This is especially complicated by the failure to enact a specific DRR law to actualise the DRR provisions of the Constitution and allocate responsibility.

Nonetheless, some countries such as Malawi, Uganda and Ethiopia have made good progress in building community awareness leading to important subnational participation in DRR management.

FIGURE 3.2

Countries incorporating DRR in key planning documents



Source: Development Initiatives based on national progress reports

In Malawi, “district councils and civil society organisations have gained reasonable experience in implementing community-based DRR initiatives such as small scale irrigation schemes, dams and dykes, local capacity building, relocation of people from flood prone areas to safer areas, flood mitigation and flood early warning systems. Most of these initiatives are donor funded but coordinated at the district level through government. Local governments do not make budget allocations for DRR. The Disaster Risk Management Draft Devolution plan will help to strengthen the district capacities”

Malawi National progress report

Major challenges African countries face in implementing DRR strategies

Across the countries, the limited relationship with the private sector and communities in implementing the HFA has been a challenge to effective DRR. The IGAD and EAC regions note a similar challenge in their assessment report on the implementation of the Programme of Action and the HFA. Community participation and decentralisation through the delegation of authority and resources to local levels are the lowest reported areas of progress among the HFA indicators.⁵

In addition, there is limited DRR awareness among political and technical actors on the need for preparedness or proper coordination of legal instruments. In countries like Kenya and Mauritius where DRR responsibility is spread across several government institutions, coordination and effective use of the available limited resources is a challenge.

“A shift in mindset from response to risk management is yet to be fully realised even within the political cycles. This has resulted into low prioritisation of risk reduction matters when it comes to allocation of national budgets. Lack of a unified and comprehensive disaster management policy has also affected coordination on disaster management both within government and among other stakeholders”

Kenya national progress report

In some instances, political considerations constrained the effective involvement of other stakeholders such as civil society organisations and the media in DRR. The political arms of government often determine the space available for the involvement of other actors as remarked below by one of the journalists in Uganda.

The coordination of stakeholder involvement thus needs to improve across the continent. This places a spotlight on the effective functionality of the national platforms⁶ for DRR. A total of 39 African countries have established national platforms, though with varied degrees of functionality and legal bases. In most of the countries, these DRR platforms are not established by law, which greatly inhibits their functionality. The mandates of these platforms are not officially set and they are thus considered to be of low priority when the coordinating agencies are allocating their resources.

These same challenges were identified in a past review of national platforms globally where it was recommended that platforms are provided with a legislative basis,

budget allocations, clear terms of reference and work plans in relation to the Cabinet or other high-level political institutions, and greater country ownership is promoted.⁷

Progress in selected themes

Across the HFA indicators, a number of themes stand out. Some of these, such as reducing the underlying risk factors, have been identified as experiencing challenges across reporting periods. Others, such as knowledge use and gender, are identified as cross-cutting across all DRR efforts. This subsection delves into progress across a select number of such themes.

Reducing the underlying risk factors

The 2013 Africa Status Report on DRR notes that reducing risk factors are among the most challenging aspects of DRR in the continent. This requires long-term efforts. In most of the national reports, substantial achievement is reported

“In Uganda, only the designated government DRM agency (Office of the Prime Minister), through the minister for Disaster preparedness, management and refugees has the mandate to classify a given situation into a hazard, emergency or crisis. Thus the media despite often receiving information at the onset cannot classify such situations and call for the needed attention early enough – it has to await official declaration. In some instances the situation will worsen and human life will be at stake while government agencies deliberate on the issue”

Journalist in Uganda

FIGURE 3.3

Progress across HFA Priority 4 core indicators in 2013–2015 period



Level of progress		
1: Minor progress with few signs of forward action in plans or policy	3: Institutional commitment attained, but achievements are neither comprehensive nor substantial	limitations in key aspects, such as financial resources and/or operational capacities
2: Some progress, but without systematic policy and/ or institutional commitment	4: Substantial achievement attained but with recognised	5: Comprehensive achievement with sustained commitment and capacities at all levels

Source: Development Initiatives based on national progress reports

to have been attained since the 2011–2013 reporting period but with recognised limitations, especially in financial resources and/or operational capacities (see Figure 3.3 for details). This is true for core indicators 1, 2, 5 and 6. For core indicators 3 and 4, most countries have attained institutional commitment but the achievements are neither comprehensive nor substantial.

As progress is mostly limited by institutional commitments, this implies that there is limited reduction in risk the countries face as illustrated by the high risk profiles

that many countries in Africa have (see chapter 2). Most of the initiatives to reduce underlying risk factors in the 2013–2015 reporting period have taken the shape of environmental protection and social development (expansion of social protection).

Reducing risk through environmental protection

Most of the countries reported to have invested in reducing risk and vulnerability in urban settlements as well as putting in place risk-sensitive regulation in land zoning and private real estate development. However, while in

many of the countries legislation is in place to protect the environment, institutional capacity remains weak to enforce environmental laws as well as implement DRR programmes. The capacity limitations where reported are mostly technical (skills gaps or human resource inadequacies).

Across all of the countries, limitations in capacity development are mainly attributed to limitations in financial resources (eg in Nigeria and Mozambique). Fourteen countries still do not incorporate costs and benefits of DRR into their planning for public investment.

TABLE 3.2

Status of reduction in risk factors across Africa

Systems to support addressing the underlying risk factors	Number of reporting countries	
	Systems in place	Without systems in place
Mechanism to protect and restore regulatory ecosystem services	33	2
Assessment of impacts of disaster risk that are created by major development projects	31	4
Investment to reduce the risk of vulnerable urban settlements	30	5
Social safety nets to increase the resilience of risk prone households and communities	29	6
Incorporation of DRR costs and benefits into the planning of public investment	21	14
Post-disaster programmes explicitly incorporating and budgeting for DRR for resilient recovery	20	15

Source: Development Initiatives based on national progress reports

The financial constraints were reported to be most prevalent in post-disaster recovery. Only a small proportion of recovery and reconstruction funds is directed to DRR. In many of the countries, DRR is only one of so many competing priorities drawing resources from contingency funds.

Some countries, such as Uganda, South Africa and Nigeria, report major limitations in private sector and community involvement to supplement resource limitations.

Reducing risk through social development

Africa as a whole has continued to experience a growth in population.⁸ Despite the resource constraints faced in many of the countries, governments have invested in putting in place and in some instances (eg in Rwanda, Uganda, Nigeria, South Africa, Mozambique and Ethiopia) expanding social protection programmes to mitigate population exposure to risks and hazards. Of the countries that reported, 29 have social safety nets

“The legislative guidelines on how the private sector should participate in DRR do not exist – private sector participation mostly ad hoc, and based on response contributions”

Key informant interview, National Emergency Management Agency, Nigeria

systems in place. Figure 3.4 indicates that micro-finance is available in most countries while employment guarantee schemes are the least available system.

However, despite the existence and expansion of social protection programmes, the coverage (number of beneficiaries) across the continent remains limited.⁹ The coverage limitations are especially true for micro-insurance and temporary employment guarantee schemes (see Figure 3.3).

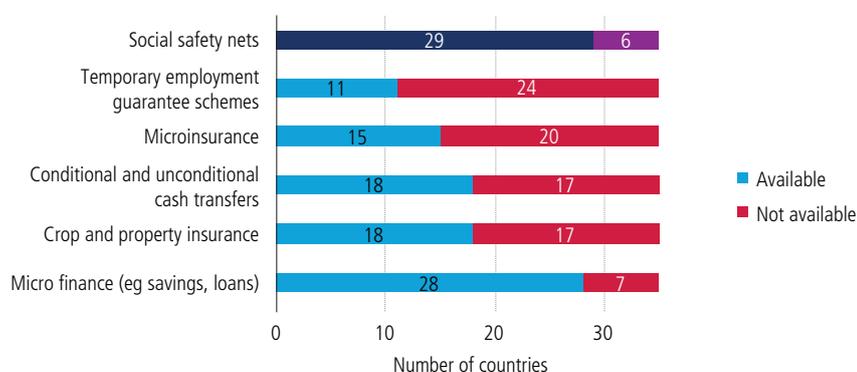
The UN¹⁰ classifies the majority of countries in Africa as least developed countries (LDCs). Although LDCs are expanding social protection programmes, research indicates that the coverage of these programmes is only reaching 20% of those living in extreme poverty. Furthermore, even within this coverage, the social transfers are not enough to sustainably lift poor people out of extreme poverty. The average value of the transfers is estimated to be 10% of the 42 purchasing power parity (PPP) cents a day that is needed.¹¹

Uganda for instance, is in the process of expanding the coverage of its senior citizen grants having piloted it in 15 of the 111 districts. Even as the coverage expands, challenges remain regarding the sufficiency of the grants with the cash transfer amounts falling far below the country’s poverty line.¹²

From Figure 3.4, it is notable that the limitations in social safety net access

FIGURE 3.4

Social safety nets in Africa



* First bar (Social safety nets) is the sum of the examples of social safety nets in the bars that follow.

Source: Development Initiatives based on national progress reports

are mainly in areas that are driven by the private sector, hence the need to understand how private sector interests can be leveraged to invest in DRR. With the increased role of the private sector in the national development process, DRR is increasingly being seen as a business opportunity, particularly in the middleincome countries in sub-Saharan Africa (there are currently 22). Further, the private sector needs to better understand disaster-related risks in the context of business planning, representing a sustained effort to promote disaster-sensitive investment.

The Kenya Private Sector Alliance (KEPSA) indicated that the nature of the private sector’s involvement in DRR remains relatively unknown to both the public and government actors.

To counter such coordination challenges, the Kenyan government has designated particular spaces to consult the private sector. Ministerial policy forum and presidential roundtables are examples of spaces created for KEPSA to engage with DRM ministers and the president’s office respectively. In addition, parliamentary committees have increasingly begun to consult KEPSA on DRR-related bills.

According to the 2015 UNDP and the Overseas Development Institute (ODI) report on financing for reducing

“The private sector is always an afterthought in DRR. For instance, in the event of a fire hazard, private fire company trucks often respond faster than the police fire brigade. The private fire company trucks, however, cannot intervene without prior approval from the police fire brigade. While this wait goes on, the damage from the fire grows, which could however been prevented”

**Chair of Disaster Management
Sub-committee, KEPSA**

disaster risk, “the current DRR finance architecture is unpredictable and often activity focused, and one in which the reduction of disaster risk may not be the primary motivation.”

Private sector actors always have a profit maximising motive; thus funding DRR projects does not appeal to them. However, ‘blended

finance’ can help bridge this gap. Blended finance is the use of public or philanthropic funds to attract additional investments from private sector actors into development projects. This can entail a variety of instruments such as using public guarantees (eg first loss guarantees) to cover the risk associated with an investment.

Case study: Leveraging private sector interests to invest in DRR: the International Finance Corporation’s experience in blended finance

While blended finance is a relatively new phenomenon, the practice of blending different financing types in DRR is not entirely new. Below are some examples of blended finance projects run by the International Finance Corporation (IFC) that bear relevance to DRR and are already being implemented in Africa.

Global Agriculture & Food Security Program

Global Agriculture & Food Security Program’s Private Sector Window is managed by IFC and provides innovative financing to enhance the commercial potential of smallholder farmers and medium and small enterprises. Among its approaches is a blended finance mechanism to crowd-in private sector investment funding by enhancing the risk and return profile of projects that might not otherwise attract commercial funding. The programme’s funding is co-invested alongside IFC funding, with concessional funds allowing investments to target market failures and invest in early-stage, risky projects with sound business plans and a high degree of development impact. Every one dollar of Private Sector Window funding leverages eight dollars of

private sector funding, and since 2015 this has seen the deployment of \$174.8 million in funding to support 26 investment projects with a total size of \$930 million.¹³

Blended finance for climate change mitigation and adaptation

IFC’s Blended Climate Finance unit manages roughly \$700 million in concessional donor funds, to be deployed in conjunction with IFC’s commercial funds, to catalyse climate-smart investments with high development impact that would not occur under normal market conditions. Using concessional financial instruments such as soft senior or mezzanine loans, direct equity investments or private equity funds investments, and guarantees, IFC addresses market barriers in order to facilitate pioneering projects that combat climate change and provide powerful demonstration effects. Since 2010, the Blended Climate Finance unit has committed \$281 million in donor finance to mobilise \$1.1 billion in IFC financing and \$3.7 billion in private sector investment. In South Africa, the unit invested \$41.5 million in two concentrated solar power plants that will avoid 442,000 tonnes of CO2 emissions per year, the first of its kind in sub-Saharan Africa.¹⁴

Disaster preparedness for effective response at all levels

Disaster preparedness and response epitomises most of the government activities and programmes in DRR. The recurring nature of some disasters such as flooding and landslides means that governments have to invest in disaster preparedness and response. In the previous reporting period, the Africa status report indicates that most countries had prioritised investment in disaster preparedness in DRM. This pattern extends into this reporting period (2013–2015) as well.

The period 2013 to 2015 saw progress in strengthening disaster

preparedness and response. Nearly all (94% of the 35 that reported) reported having national programmes/policies for disaster preparedness, contingency planning and response. Countries have also placed focus on capacity development to improve effectiveness in disaster preparedness and response.

However, this level of progress is not uniform across the continent. In some countries such as South Sudan, there is no disaster risk management policy. This often constrains the disaster preparedness and response activities.

“South Sudan has no contingency plan that would have allowed it to respond to disasters immediately. The Ministry of Humanitarian Affairs and Disaster Management solicits support from the government that might take one to two months to respond. The reasons for lack of a contingency plan/fund are mainly absence of a DRM policy and political instability”

.....
Director General of Disaster Management, Ministry of Humanitarian Affairs and Disaster Management, Republic of South Sudan

Some countries, such as Uganda, still do not have policies and programmes for school and hospital safety during disasters. In addition, most of the countries do not have disaster preparedness and contingency plans at subnational level. Some countries (such as Uganda and Rwanda) continue to report an absence of risk management/contingency plans for continued basic service delivery, secure medical facilities as well as dedicated provision for children, pregnant women, people with disabilities and older people in relief, shelter and emergency medical facilities.

Many of these limitations are down to limited financial resource availability. To counter the financial challenges faced during emergencies, countries have put in place well-coordinated systems to facilitate the mobilisation of funds to deal with emergencies. South Africa, for instance, often uses its National Joint Operational and Intelligence Structure systems in coordinating and mobilising resources to respond to emergencies. The Government of Ethiopia leads a multi-agency needs assessment to identify emergency needs beneficiaries and required resources for response.

BOX 3.2

Examples of capacity improvements

Mozambique

Improvement has been registered in institutional capacity development especially at sector level. Technical capacity in assessing damages and losses has improved with staff training and guidelines to guide damage assessments at sector level. These have been designed by the Disaster Management Technical Commission. Mozambique has also put in place institutions/ departments to deal with construction of climate-resilient infrastructure in roads, education and railways.

Rwanda

Rwanda provides a good example of DRR integration in schools' curricula. The country has introduced a DRR module for secondary schools and trained 240 teachers in DRR during this reporting period. In addition,

a school disaster preparedness and education project is being piloted, supported by the One UN Fund.

Nigeria and Uganda

Nigeria has built capacity (nationally and subnationally) in damage and loss assessment as well as post-disaster needs assessment with support from the Global Facility for Disaster Reduction and Recovery of the World Bank. Uganda has received similar support and uses their post-disaster needs assessment methodology.

In addition, UNISDR, with support from the European Union as part of its cooperation with the African, Caribbean, and Pacific Group of States (ACP), is currently working with the governments of 20 African countries to enhance their capacity on disaster loss accounting and using this information to inform public investment decisions on DRR.

Financing mechanisms for disaster preparedness and response

Several financing mechanisms to deal with disasters exist in Africa. In the national assessment reports, countries report on four financing mechanisms:

1. a national contingency and calamity fund
2. consideration of risk reduction in using calamity funds
3. existence of insurance and reinsurance facilities
4. catastrophe bonds and other capital market mechanisms.

Just over half (51%) of the 35 countries that reported in the 2013–2015 period have at least two financing mechanisms for disaster preparedness and response. Four-fifths (80%) have at least one financing mechanism. However, seven countries remain without a single mechanism for financing disaster preparedness and response.

Among the seven countries without a financing mechanism, two (Côte d'Ivoire and Rwanda) were also without a financing mechanism in the previous reporting period. However, these may not be the only countries for whom no progress has been registered across the reporting periods. Data availability limits the assessment of

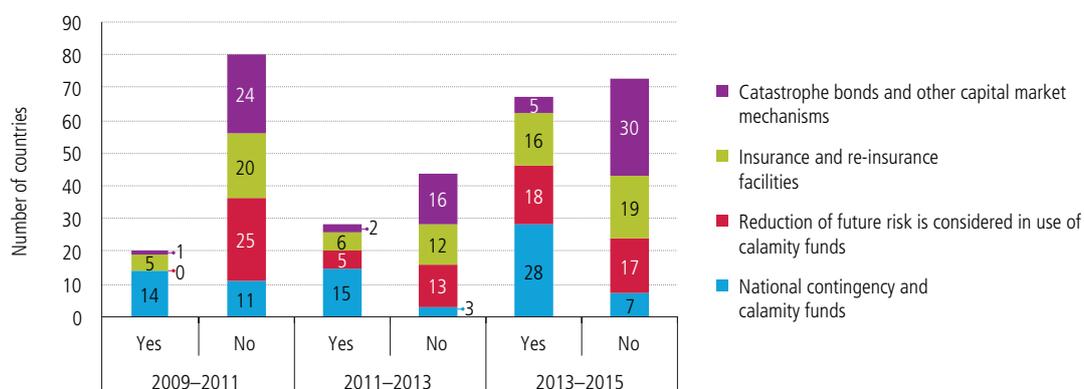
country progress across the current and previous reporting periods (data is only available for 18 countries in the 2011–2013 reporting period).

In addition, the countries without any financing mechanisms are either classified as 'long-term fragile' States (Cote D'Ivoire, Guinea, and Rwanda), or as 'fragile' States (Guinea Bissau and Madagascar).

Considering the progress across the three latest reporting periods, it is notable that the number of countries reporting existence of national contingency and calamity funds has increased – rising from 14 in reporting period 2009–2011 to 28 in reporting period 2013–2015 (see Figure 3.5).

FIGURE 3.5

Distribution of financing mechanisms across reporting periods



Source: Development Initiatives based on country assessment reports

TABLE 3.3

Breakdown of countries with financing mechanisms for disaster preparedness and response

Number of Financing Mechanisms	No Financing Mechanism	One Financing Mechanism	Two financing Mechanisms	Three Financing Mechanisms	Four financing mechanisms
Countries	Benin Côte d'Ivoire Guinea-Bissau Lesotho Madagascar Rwanda Togo	Cameroon Kenya Swaziland Tanzania, United Rep of Tunisia Uganda	Botswana Cabo Verde Egypt Ethiopia Gambia Malawi Mali Mozambique Seychelles	Burkina Faso Burundi DRC Gabon Mauritius Morocco Niger Nigeria Senegal	Ghana Guinea South Africa Zimbabwe

However, while contingency and calamity funds exist, not all of them are used to reduce future risk. Almost half (49%) of the 35 countries indicated that reduction of future risk is not considered in the use and calamity funds. The absence of future risk considerations in the disbursement of these funds could be a contributing factor to prevalence of risk in some countries. As highlighted in chapter 2, half of the countries with high risk profiles in the world are in Africa. Four of these countries (Cameroon, Kenya, Mali, and Uganda) where future risk is not taken into consideration in the disbursement of calamity funds are among the 30 highest risk countries globally.

Apart from the national contingency and calamity funds, there are limited financing options in most countries. As Figure 3.5 shows, many countries (30 of the 35 that reported in 2013–2015) do not have insurance, reinsurance or catastrophe bonds among the financing mechanisms at their disposal. Insurance and reinsurance are also limited in financing disaster reduction.

Risk assessment and early warning

Risk assessment and early warning are useful for producing predictions, alerts and warnings. When done systematically, early warnings create avenues for contingency planning and resource allocations that ultimately translate to early action. Globally, progress in implementing early warning systems is reported to have significantly improved. Better information on hydrometeorological systems and their consequences for slow onset and, in some countries, rapid onset disasters have significantly improved readiness and post-disaster recovery frameworks.¹⁵

BOX 3.3

Country experiences in risk assessment

Ethiopia

Success

A systematic database, Risk Baselines, has recorded disaster events for the past few decades. This database is currently being integrated into the DesInventar system. The early warning reporting process also collects records of such events, which are used to update this database.

Challenges

The disaster loss database depends on official records of disasters and recall surveys. Hence, the accuracy level is often questioned due to the errors associated with such a data collection system. There are limited technical capacity and human, material and financial resources to analyse and update the bulk of data and manage loss databases, particularly at local level.

Malawi

Success

The Department of Disaster Management Affairs maintains a database of disaster losses, which is updated regularly. Districts also keep a database of disaster losses and update them regularly. Disaster reports are generated and circulated to stakeholders for use in planning. Some reports are specific to certain disasters while others, such as the Humanitarian Update, are general and aim to update stakeholders on current trends in humanitarian situations.

Challenges

The capacity to value disaster losses in monetary terms to inform programming is not sufficient. Modern equipment for early warning and communication of early warning information is lacking. The flood early warning system, for example, covers major rivers but not smaller ones. Community members also do not use the early warning information generated.

Existence of multi-hazard risk assessments in Africa

In Africa, progress has been slow with many countries (almost half of the 35 that reported) not conducting multi-hazard risk assessments to inform planning. The main challenges that countries report are around the lack of a standard framework for risk assessment – largely due to poor coordination, and lack of financial and human capacity, particularly at subnational levels. The box below presents selected country experiences (success and challenges) in multi-hazard risk assessment.

Increasingly, countries are putting in place systems to monitor, analyse and report disaster losses. These are often included in disaster loss databases that should be updated regularly. Some countries, such as Ethiopia, have made significant progress in local-level assessments with the establishment of district (Weredas) risk assessments. However, there remain challenges around resources (finance, technical and equipment) as well as data accuracy. Because of the resource constraints, about 12 countries report not having disaster loss databases.¹⁶

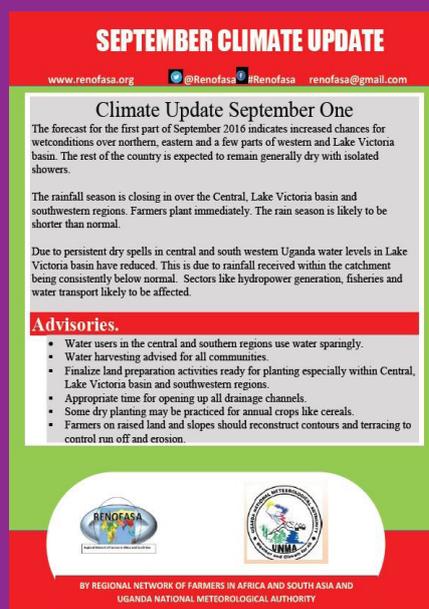
Case study: How the media is providing DRR information to farmers in Uganda

Farmers Media Link Centre, under the Regional Network of Farmers of Africa and South Asia (RENOFASA) umbrella, has been working with the Uganda National Meteorological Authority to bridge the knowledge transfer gap between scientists and farmers in Uganda for the last two years. It does this by disseminating agro-climatic information to farmers in Uganda on a monthly basis. In the absence of mechanisms for climate change adaptation such as irrigation schemes in Uganda, Farmers Media Link Centre considers climate change information vital to helping farmers make informed decisions on planting, land preparation and water harvesting. This is intended to improve food security and ultimately strengthen smallholder farmers' resilience against climate change.

The approach: Climate information is broken down into simple advisory messages that are sent to farmers on mobile phone networks and through social media. Climate information has also been channelled through faith institutions as announcements

during services and community dialogues through village learning and communication centres to cater for community members without access to mobile phones and social media. This image is an example of the information disseminated, specific to the geographical regions in Uganda.

Example of RENOFASA's knowledge transfer initiatives



Source: RENOFASA - Uganda Country Office

“Resilience efforts have placed a lot of emphasis on climate change but little or no emphasis on climate information. Our work uses climate information to empower communities to make informed farming decision that strengthen their resilience against climate change”

CEO Farmers' Media Link Center, Uganda

Through RENOFASA, similar models are being piloted in other African countries including Ethiopia, Ghana, Malawi, Mali, Zambia, and Tanzania. This is a six-year project and while its evaluations are yet to be undertaken, the advice appears to be helping farmers to make informed decisions on when to prepare the fields and which crops to plant at which times. Such innovative measures are replicable in other contexts and countries making them possible solutions to knowledge transfer challenges in Africa.

Using knowledge and innovation to build safety and resilience

The challenge of access to technology for information sharing and dissemination is particularly common at the community level in African countries. Close to 50% of the countries report that national disaster information systems do not exist in the public domain. In addition, half the countries report that DRR information is not disseminated proactively or with proactive guidance. While there are mechanisms for access such as SMS¹⁷ and radio alerts, there remain challenges

in uptake by the communities, largely around a lack of interest in DRR matters, which can be seen in the limited contribution to radio talk shows, for example.

Countrywide public awareness

The HFA priority 3 requires countries to put in place strategies for countrywide public awareness to stimulate a culture of disaster resilience, with outreach to urban and rural communities. Reporting for this indicator is mixed. Some countries now have better systems in areas such as public education campaigns and

disaster management, but show less success in developing guidance on risk reduction and access for information on DRR practices at the community level.

Opportunities for improvement in increasing public awareness should focus on:

- Simplifying and better packaging DRR messaging/terminologies
- Measuring effectiveness of dissemination/awareness creation campaigns

- Creating a better, more effective role for the media on DRR issues
- Designing systematic strategies to coordinate awareness raising, and implementing these properly
- Coordination awareness raising better at the national and subnational levels
- Enabling access to financial and technical resources to implement awareness raising

In some countries, such as Ethiopia, Ghana, Malawi, Mali, Tanzania, Uganda and Zambia, media associations are partnering with meteorological authorities to help farmers access agro-climate information, which offers some best practice techniques.

Gender mainstreaming in DRR

Sub-Saharan Africa has among the highest levels of gender inequality in the world, along with high poverty rates and income inequality.¹⁸ North Africa and sub-Saharan Africa are rated as the second and third regions with the highest gender inequality, behind the Middle East. Women are vulnerable economically long before natural hazards occur and have limited social power, economic resources and physical capacities to prepare for and survive and recover from extreme environmental events.¹⁹

Disasters affect women disproportionately due to existing socioeconomic conditions, cultural beliefs and traditional practices. UNISDR advocates for a gender perspective to DRR in terms of disaster preparedness, survival and recovery that is based on gender-specific capacities and vulnerabilities. Gender-related vulnerabilities particularly are

worse when conflict and disaster collide.²⁰ For instance, slow onset of drought in ongoing pastoralist conflict in Kenya has been found to restrict women's movement and add workload to the point that women may need to spend seven to eight hours a day fetching water and fuel wood. They are also the first to lose their already limited assets; while girls are married off at young ages or forced into prostitution.²¹

Ministers and heads of delegations responsible for DRR in Africa recognised women's vulnerability to disaster risks in their recommendation to the African Union Summit following the Second Ministerial Conference on DRR in 2010. They called strongly on Member States to incorporate gender equality and empowerment considerations in implementing the Programme of Action.

Country experiences in gender mainstreaming of DRR

Among the countries that proactively pursue gender equality in DRR programming are Rwanda and Ethiopia. Rwanda's Ministry of Disaster Management and Refugee Affairs developed a Guideline on Gender in Disaster Management focused on the different needs and capacity of women, girls, men and boys in the planning and implementation of projects, but looking to afford women a proactive role in DRR activities. The strategy is to be applied in all phases of disaster management: prevention, mitigation, preparedness, response and recovery. In Ethiopia, cross-sector task forces and working groups oversee the incorporation of gender in programme implementation. The Working Group on Mainstreaming Gender in DRM was set up to drive this stream of work and work jointly with the other groups at national level to ensure uptake of gender approach in programmes.

A number of countries have started to include a gender perspective in national programming.

- Malawi has a DRM policy throughout which gender is strongly embedded.
- Uganda has made significant progress in using disaggregated data in disaster recovery planning and implementation activities such as with the Peace, Recovery and Development Plan for Northern Uganda and the Northern Uganda Social Action Fund.
- Senegal's programme for major risk and disaster management features a gender component, as does Tanzania's Disaster Management Policy and Gabon's National Contingency Plan.
- Seychelles has a dedicated government office that oversees integration of gender in all DRR and DRM projects.
- In Gambia, a Youth Ambassador has been appointed to advocate on DRR, while the Women's Bureau is shifting its focus to DRR too.
- Despite lack of tangible evidence of its benefits at national level, efforts are being made in Mozambique to consider vulnerable groups in disasters and a Protection Group has been created to this end.
- Morocco has an informal women's association that advocates on the issue, particularly in difficult areas.
- Swaziland's Disaster Management Agency is working on building capacity to use disaggregated data by gender

for informed decision-making, but focus does not steer away from all vulnerable groups during natural hazards.

- Togo’s UNDP-financed project to promote women leaders in DRR strengthened women’s roles in severely disaster-affected regions.

For these countries, significant efforts are still needed to embed gender equality across disaster-related projects. Along with capacity and methodologies for collecting disaster gender-disaggregated data and conducting local context analyses, there is a need for evidence to understand the role of approaching programming from a gender perspective, the role and impact of women in crises and how these feed into achieving wider goals and agendas.

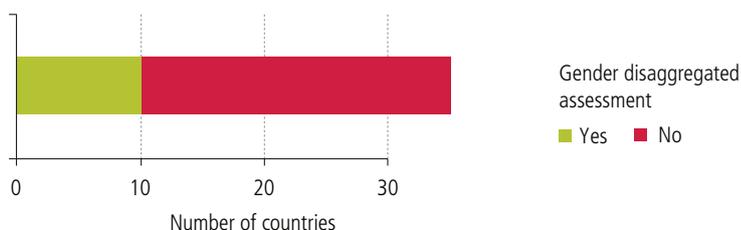
A small number of countries do not yet seem to be pursuing incorporating gender in DRR/DRM activities, but rather seek new opportunities in their own contexts: Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, DRC, Côte d’Ivoire, Egypt, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Mali, Mauritius, Niger, Nigeria, South Africa, Tunisia and Zimbabwe.

Gender disaggregation of vulnerability and capacity assessments²²

More than half of African countries do not have gender-disaggregated assessments. While specific reasons are not provided for this, there is a chance that the issue of gender in DRR still needs to be strengthened in the continent. This resonates with previous findings, which outline the need for national DRR platforms to keep gender issues as priority.²³

FIGURE 3.6

Proportion of countries that had at least one gender-disaggregated assessment during the period 2013–2015



Source: Development Initiatives based on national monitoring reports

Investment and financing for DRR in Africa

- While disaster risk reduction (DRR) in Africa is being financed through national budget allocation, the private sector and international sources, it is clear more needs to be done.
- Financial constraints were identified across all the priority areas of the Hyogo Framework for Action as a barrier for implementing and prioritising DRR in many African countries. The main reasons highlighted include:
 - Low priority given to risk reduction in national budgets
 - Preference/habit of focusing on emergency response to disaster
 - Lack of a standard DRR budget monitoring system
- Difficulties with tracking DRR-related expenditure present a challenge when trying to assess whether investments are sufficient to manage multiple risks in a country.
- Supporting governments in Africa to allocate funding to DRR and track their investments in DRR could be a useful indicator for assessing countries' progress against the Sendai Framework for Disaster Risk Reduction.
- All of the global accords of 2015 to 2016 recognise the need for more investment in risk management and building resilience against hazards.

Introduction

This chapter uses available data to assess the state of investment in DRR in Africa following the inception of the Hyogo Framework for Action in 2005. The analysis draws on examples of DRR financing in the continent from national budgets, private sector investments and contributions from international donors through humanitarian and development assistance. The chapter also identifies the challenges in identifying investments within the current data in all streams of financing: national, private and international.

Allocating finances for DRR in national budgets

National governments are primarily responsible for managing risk and financing DRR activities in their own countries. Only through the inclusion of specific and dedicated commitments to national financing for DRR (especially when integrated into development investments) can sustained progress be made in reducing disaster losses (ODI, 2015).¹

There is currently no clear way of estimating the total amount of finances national governments are allocating to DRR. Financial allocation to DRR can be direct or indirect – financing DRR as a standalone activity or as one that is integrated into development planning.

Where data is available there is great variability in the reporting of budgets and expenditure at national and state levels in different countries. In addition, DRR and response activities are commonly spread across multiple budgets.

When detailed budget information is available, it is possible to identify expenditure at the national and even subnational level. Due to the challenges in identifying DRR finances, quantifying

precise volumes of investment is unlikely. Still, it can provide a useful indication of the ministries, state departments and sectors expenditure is currently falling under.

A forensic examination of the Kenyan Government's national budget for 2016 to 2017 and the Migori County budget for 2016 provides a useful example of how DRR-related expenditure can be tracked across ministries, departments and sectors.

DRR financing in the Kenya national budget

In the 2016 budget, disaster-related projects formed 2.5% (KES 20.5 billion) of the budget, which is expected to increase

by 2.6% in the 2017 financial year and 1.2% in the 2018 financial year.

According to the Kenya national budget for 2016/17, the majority of funding for DRR was allocated to the Ministry of Water and Irrigation, Ministry of Health and the State Department for Devolution, largely for flooding (31.0%), disease control (30.8%) and drought (27.4%). Disease control is funded through the Ministry of Health and State Department of Livestock; droughts through the State Department for Devolution; and floods control through the Ministry of Water and Irrigation. Other disaster prevention and control programmes are funded through the Ministry of Environment and Natural Resources, regional development authorities, and the State Department for Interior.

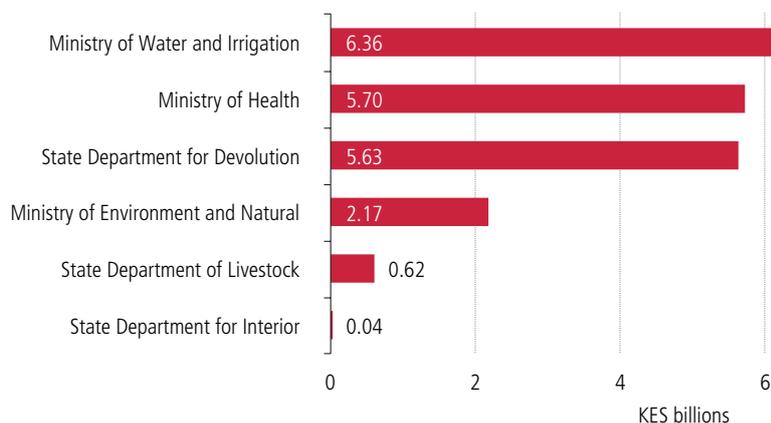
Case study – An analysis of Kenyan government spending for DRR

The Constitution of Kenya assigns the responsibility of disaster management to both the national government and the county government. Funds for DRR are therefore disbursed through ministries, state departments and at the subnational level through county governments.

A review of the Kenyan national central budget for 2016–2017

estimates allocations for DRR funding at Kenyan Shillings (KES) 20.5 billion. Subnational governments invest in DRR through the departments responsible for disaster management. In 2016 county budget, Migori County estimates to spend KES 128 million in environment and disaster management.

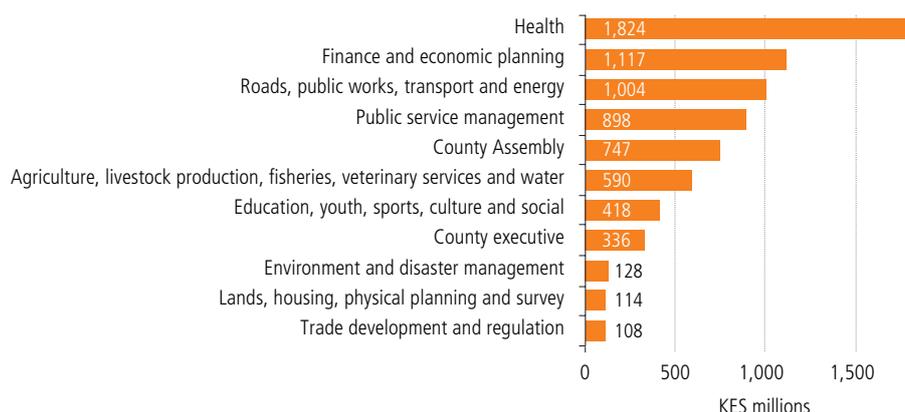
FIGURE 4.1
DRR funding in Kenya by ministry and department, 2016



Source: Development Initiatives' figure based on Kenya national budget 2016/17

FIGURE 4.2

Migori County budget by sector, 2016



Source: Development Initiatives' figure based on Migori County 2016 budget

Subnational public funding for DRR – the case of Migori County in Western Kenya

DRR funding can also be tracked at the sub-national level through county budgets. For example, the Migori County budget for 2016 includes an allocation of KES 128 million for the environment and disaster management sector. The allocation accounts for 1.8% of the 2016 county budget and includes activities relating to environmental management and protection, natural resource conservation and disaster management.

Improving the visibility of DRR in national budgets

It is currently difficult to assess whether African countries are dedicating significant finances to DRR and whether the investments they are making are sufficient to tackle the multiple risks they face.

Supporting governments in Africa to both allocate funding to DRR and track their investments would help to provide a useful indicator for assessing countries' progress against the Sendai Framework.

Regional mechanisms for financing risk management in Africa – the example of the African Risk Capacity

As well as earmarking investments to address disaster risk in national planning and budgeting, there are a number of alternative financing mechanisms that could help to offset the impacts of natural hazards on a country's economy.

The African Risk Capacity (ARC), Africa's first sovereign catastrophe insurance pool, has been highlighted as a model example of an initiative that enables early action in preparing for drought, building long-term resilience and contributing to sustainable development. Since its launch in May 2014, the ARC has gained momentum with more African governments taking up policies and increased international recognition.

The ARC risk pool is informed by data from the Africa Risk View, an early warning system that monitors levels of food security against needs and drought response costs. Africa Risk View combines weather and crop data with data on vulnerable populations and historic analysis of the costs of

response. Payouts to ARC policy-holding governments are triggered when the estimated response costs cross a certain pre-defined threshold. The insured government uses the ARC payout to launch early response activities as set out in their pre-agreed contingency plan. By pooling their risks, participating governments reduce the cost of insurance, as drought is unlikely to affect the whole continent at one time.

In January 2015, three participating African countries (Mauritania, Niger and Senegal) received their first payouts totalling a combined US\$26 million. These three countries had paid a combined premium of US\$8 million and the payouts they received were used to deliver livestock fodder, food and cash to affected populations based on their pre-approved contingency plans. The quick payout times meant the three countries received payment before the UN had launched an appeal for humanitarian support in mid-February.

Another five countries (Burkina Faso, Malawi, Mali, Gambia and Zimbabwe) joined the pool in July 2015, bringing the total coverage for the year to US\$192 million. Increased membership highlights willingness to dedicate more domestic resources to disaster funding and ARC is looking to target between 20 and 30 countries for membership in the next four years.²

Private sector DRR investments in Africa

There is clear mutual interest for the public and private sectors to work together, as the private sector relies on the resilience of public infrastructure and services to conduct their businesses, and governments and communities depend on resilient business practices for a stable and sustainable economy.³

The role of the private sector in supporting DRR has received increasing attention from both governments and international organisations. The Hyogo Framework for Action and the Sendai Framework for Disaster Risk Reduction highlight the importance of strong commitment and involvement of the private sector in implementing the frameworks and helping societies become more disaster resilient.

Assessing the current full investment in DRR from the private sector in Africa would be a sizeable task; however, there are a number of examples in recent years where private companies and organisations have supported DRR efforts in the continent. The private sector has engaged in DRR-related activities directly, and indirectly through cooperate social responsibility activities relating to sustainable development and environmental protection.

Examples of private sector investment in DRR

The range of DRR activities supported by the private sector in Africa is diverse, from supporting emergency services in their disaster management efforts; to providing services and equity for microfinance and index-based weather insurance initiatives; to working with governments to implement development plans to disaster proof entire cities.

South Africa's Business Adopt-a-Municipality project

The Business Adopt-a-Municipality project is an initiative run by the South African Government's Department of Cooperative Governance, which encourages private sector companies to support municipalities across the country to deliver services to local communities. Insurance company Santam has worked closely with the project to improve fire services through

providing fire equipment and training, and helping to develop guidelines to address fire, storm water and flood risks.⁴

Equity Bank supporting the Hunger Safety Net Programme in Northern Kenya

The Equity Bank's role in the Hunger Safety Net Programme (HSNP) in Northern Kenya is an example of private sector involvement in building community resilience to the impact of drought through cash transfer initiatives. The HSNP provides cash to food insecure households in northern Kenya in an effort to enhance their resilience to shocks and stresses. Operating since 2007, the initial phase of the programme was supported by contributions from international donors the UK's Department for International Development (DFID) and Australia's (former) aid agency AusAid. HSNP is now housed at the Government of Kenya's National Drought Management Authority and is increasingly financed from the government budget although DFID still contributes.

Equity Bank was selected to provide payment services to the HSNP and uses its innovative 'agency banking model' to ensure payments are delivered to recipients in a cost-effective, efficient, accessible and secure manner. Equity Bank has taken part in other cash transfer programmes across the East Africa region, partnering with a range of leading international development agencies to deliver payments to beneficiaries through its network of agents.

Private sector investment to build a resilient city by 2035 in Beira, Mozambique

With financial support from the government of the Netherlands, the port city of Beira in Mozambique has developed 'Masterplan Beira 2035' to

make the city disaster resilient by 2035. Beira is highly exposed to climatological hazards including flooding, cyclones and sea level rise. Rapid unplanned development, inadequate infrastructure and inefficient drainage systems has made the city increasingly vulnerable to these hazards. Masterplan Beira 2035 presents a long-term vision and strategy to tackle these connected issues.⁵

Central to the plan is the involvement and investment of the private sector working in partnership with the government and city municipalities. A key process in its development and implementation was stakeholder engagement with potential investors including the World Bank, the African Development Bank, actors in public-private partnerships, and large mining companies. The Mayor of Beira estimates the city and private investors will need to raise US\$100 million to disaster proof the city.⁶

Enhancing private sector engagement for DRR in Africa

Major commercial organisations from the African private sector gathered together at the Fifth Africa Regional Platform on Disaster Risk Reduction, convened by UNISDR, in May 2014, in Abuja, Nigeria. During the private sector, business and industry session participants outlined a commitment for the public and private sector to work closely together on implementing DRR in the continent. The session outlined a number of key areas for collaboration.⁷

- Including the private sector in planning and policy processes can ensure effective sustainability. A private sector platform is needed to coordinate inputs to galvanise and incentivise DRR actions.
- Sharing risk information and resources between public and private sector stakeholders can

facilitate risk identification and mapping, risk assessment, and identify steps to mitigate impacts through effective early warning systems.

- Public-private sector partnerships for DRR will make resilient investment mainstream thereby providing tangible benefits.
- More effective legislation and resulting regulation will promote a 'level playing field' for business.
- The Sendai framework for Disaster Risk Reduction will promote the

adoption of a new age in business continuity planning.

- Government incentives for extending business continuity planning through the supply chain raise the awareness for the importance to small and medium-size companies.

International contributions to support DRR in Africa

Over the last 20 years many countries in Africa have regularly been among the recipients of the most official

development assistance (ODA), receiving funding through both development and humanitarian assistance.

This next section analyses the financial contributions of international donors for DRR in Africa and discusses the challenges in tracking investments in development spending.

Funding for disaster prevention and preparedness to Africa in international humanitarian assistance

International donors have provided humanitarian assistance in response to emergencies as a result of conflicts and disasters caused by natural hazards across Africa.

Between 2005 and 2014 countries in Africa received 45% (US\$52.1 billion) of all country allocated international humanitarian assistance.⁸ Over the period 8 of the 20 recipients of the most international humanitarian assistance were African countries (Sudan, Ethiopia, Somalia, DRC, Kenya, South Sudan, Chad and Zimbabwe). Over the past 10 years international donors have contributed US\$1.1 billion for disaster prevention and preparedness to the Africa continent through humanitarian assistance, accounting for 2% of all such assistance to the continent. In contrast, material relief assistance and emergency food aid have received a combined US\$47.5 billion in the same period.

Contributions to disaster prevention and preparedness represent a small proportion of humanitarian assistance and have failed to reach the 10% target recommended in the Hyogo Framework. However, they have increased year on year, peaking at US\$247 million in 2014, accounting for 4% of all humanitarian assistance to countries in Africa that year.

BOX 4.1

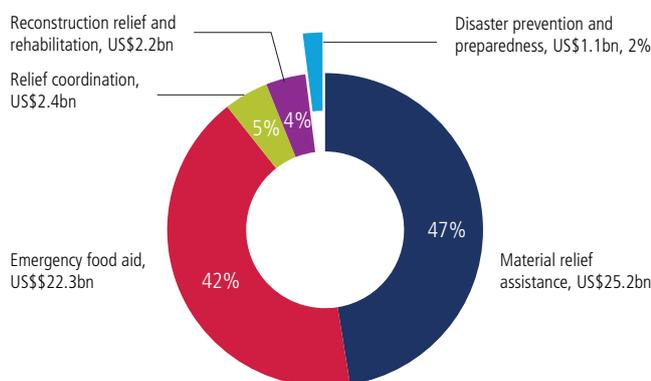
Private Sector Alliance for Disaster Resilient Societies (ARISE)

ARISE is a vehicle that will allow the private sector to fulfil the expectations presented in the Sendai Framework. ARISE aims to create risk-resilient societies by energising the private sector in collaboration with the public sector and other stakeholders to deliver on the targets of the Sendai Framework. One of the key objectives of the ARISE initiative is to make disaster risk a fundamental aspect of business planning.

ARISE is structured under seven themes, ranging from DRM strategies and investment matrices to insurance, and education and training, and is supported by the 'ARISE Trust Fund'. Each of the themes has a key organising partner. Membership of ARISE is open to any interested private sector company or business that meets the criteria established by the UN Global Compact.

FIGURE 4.3

International humanitarian assistance to Africa by expenditure type 2005–2014



Source: Development Initiatives based on Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Creditor Reporting System (CRS).

Note: Data in constant 2014 prices. Figures include regional funding.

Within the 10 recipients of the most disaster prevention and preparedness funding in Africa, 7 countries have received high volumes of humanitarian assistance overall (Ethiopia, Kenya, Somalia, Zimbabwe, Niger, Uganda and DRC), but the proportion of disaster prevention and preparedness funding has been low (between 1 and 3%). The other three countries in the 10 have received comparatively lower volumes of international humanitarian assistance but disaster prevention and preparedness represents a higher proportion of the total: Mozambique (US\$70 million for disaster prevention and preparedness, 29% of all humanitarian assistance), Madagascar (US\$47 million for disaster prevention and preparedness, 25% of all humanitarian assistance) and Malawi (US\$27 million for disaster prevention and preparedness, 9% of all humanitarian assistance).

Funding for DRR in Africa mainstreamed through development financing

Investments from international actors in DRR are a common component part of wider development assistance programmes, or mainstreamed within them.

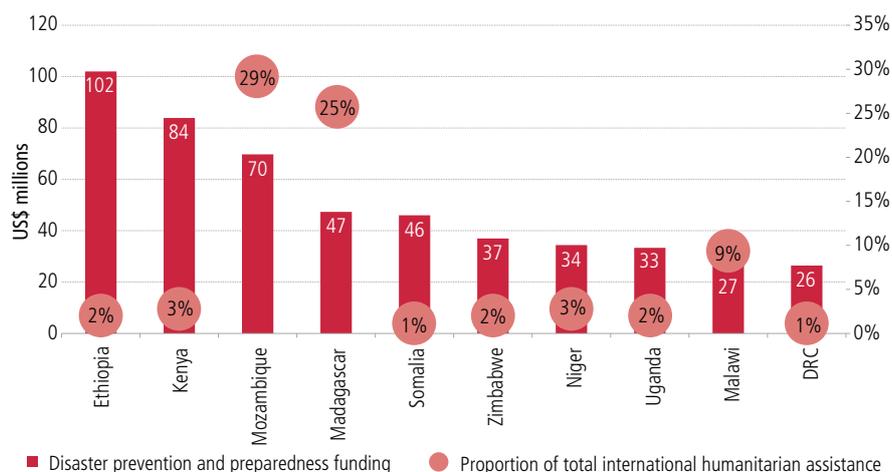
Global estimates on the volume of international aid allocated to DRR are low, 0.4% of the total amount spent on international aid between 1991 and 2010, with countries in sub-Saharan Africa identified as having particularly low levels of investment.⁹

Increased prominence of managing risk and building resilience on the international agenda

While historically contributions from international donors for DRR in Africa have been low compared with the amount spent in disaster relief, the

FIGURE 4.4

10 recipients of the most disaster prevention and preparedness funding in Africa, 2005–2014



Source: Development Initiatives based on Organisation for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) Creditor Reporting System (CRS).

Note: Data in constant 2014 prices

need to prioritise mobilising resource to finance the management of risk has been increasing recognised in recent years.

Following the introduction of the Hyogo Framework for Action in 2005, emergencies relating to food insecurity and drought in the Horn of Africa and the Sahel region in 2011 highlighted the need to prioritise finances for DRR. In response to crises like these and other chronic crises the UN introduced appeals with multi-year funding to enable a longer-term approach to dealing with emergencies and building resilience to future shocks. The first multi-year appeal was launched in December 2012 to address the cycle of recurring crises brought on by drought and conflict in Somalia. The UN followed this initiative up in February 2014 when, together with humanitarian partners, they launched a three-year regional Sahel Strategic Response Plan to provide aid to millions of people in nine countries in Africa’s Sahel region.¹⁰ Building resilience to future crises is a prominent theme in both.

Several major international donors have also responded by implementing and financing joint humanitarian and development initiatives to help build resilience, particularly in countries affected by the 2011 drought and food crises.

IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI)

In response to the humanitarian crisis facing the Horn of Africa, the Nairobi Strategy ‘Enhanced Partnership to Eradicate Drought Emergencies’ was adopted at the Summit on the Horn of Africa Crisis in 2011. The Nairobi Summit was followed by the development of the IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) Strategy. This in turn informed ‘country programming papers’ for interventions, to be undertaken at the national level in the eight IGAD Member States, and the ‘regional programming paper’ for identified activities to be undertaken at IGAD regional level. Of the seven priority areas of intervention, ‘Disaster risk management, preparedness and

effective response' has been identified as a key area for investment and action.

Global Alliance for Resilience (AGIR) – Sahel and West Africa

Following the major drought crises of 1973 and 1984, the Sahel experienced a series of acute food and nutritional crises in 2005, 2010 and 2012. The Global Alliance for Resilience (AGIR) – Sahel and West Africa, was launched in 2012, and involves the 17 member countries of ECOWAS, the West African Economic and Monetary Union (UEMOA) and the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) with particular attention to the Sahel region. Building on the 'zero hunger' within the next 20 years target, AGIR proposes to conduct complementary actions at three levels: 1) local, by supporting local communities and endogenous initiatives and mechanisms; 2) national, by supporting investment programmes and existing consensus-building mechanisms; and 3) regional, by supporting the regional plans and mechanisms put in place by the three regional organisations. DRR has been mentioned as a key action area

at each of the three levels and in the key impact indicators.

Supporting Horn of Africa Resilience (SHARE)

Following the 2011 food crisis in the Horn of Africa, the European Commission established the SHARE initiative of €270 million (US\$299 million¹¹) funding, supporting projects to build resilience to drought in communities across Ethiopia, Kenya, Djibouti and Somalia.¹²

Resilience in the Sahel Enhanced (RISE)

In February 2014, the United States Agency for International Development (USAID) launched RISE, a five-year multi-sector initiative funding resilience projects that work to end recurrent crises and build resilience in Niger and Burkina Faso. RISE currently supports three programmes with a combined funding of US\$116 million: the Resilience and Economic Growth in the Sahel – Enhanced Resilience,¹³ Resilience and Economic Growth in the Sahel – Accelerated Growth¹⁴ and the Sahel Resilience Learning Project.¹⁵

Africa Disaster Risk Financing Initiative (ADRF)

In November 2015, the European Union, the Global Facility for Disaster Reduction and Recovery and the World Bank Group jointly launched Africa Disaster Risk Financing. This five-year initiative, valued at €20 million (US\$22.7 million) aims to: strengthen capacity to generate, access, and use information on disaster risk to develop strategic financial protection and risk reduction programmes; enhance capacities to incorporate disaster and climate risk information in decision-making; develop strategies to increase financial resilience against natural hazards; and facilitate sharing of knowledge and best practices on risk finance solutions relevant for African countries.¹⁶

ADRF is part of a new *Building Disaster Resilience in Africa* programme, an Initiative of ACP, the Africa, Caribbean, and Pacific Group of States, financed by the EU, and implemented by the African Union Commission, UNISDR, the African Development Bank, GFDRR and the World Bank.

The transition from the HFA to the Sendai Framework

- An immediate priority is to enhance the existing mechanisms and tools that measure progress in DRR, and review and assess risk baselines against the guidance contained in the Sendai Framework.
- Prioritisation should also be given to developing national and local disaster risk reduction policies, strategies and plans with input from all stakeholders.
- Consideration should also be given to establishing or strengthening existing national mechanisms for disaster risk reduction, such as national and regional platforms.

Introduction

On 18 March 2015, the Sendai Framework for Disaster Risk Reduction 2015–2030 ('Sendai Framework') was adopted by UN Member States as a successor to the Hyogo Framework for Action (HFA). The Sendai Framework aims to build on the work of the HFA and presents a globally agreed plan to strengthen DRR and build resilience of nations, communities and people.¹

Since the HFA was adopted in 2005 the landscape of DRR has changed. In addition to changes in semantics and an increasing prominence in global discussions, the Sendai Framework presents an evolving holistic approach to managing risk, as opposed to responding to occurrences.

From an African perspective though, both frameworks had been preceded by the African Regional Strategy for Disaster Risk Reduction (2004),² with a Programme of Action³ to ensure its implementation. Following the adoption of the Sendai Framework efforts were undertaken to ensure its implementation in Africa. Key landmarks that helped this process include:

- Recommendations of the Seventh Session of the Africa Working Group on Disaster Risk Reduction (AWG) and the Yaoundé Declaration adopted by the Fourth High-Level Meeting on Disaster Risk Reduction (Cameroon, July 2015)⁴
- Roadmap on alignment of the extended Programme of Action with the Sendai Framework agreed at the Eighth Session of the AWG (Ethiopia, February 2016)⁵
- Final draft of a revised Programme of Action developed at the Ninth Session of the AWG (Zambia, October 2016)⁶

- Outcomes of the Sixth Session of the Africa Regional Platform, and the Mauritius Declaration adopted at the Fifth High Level Meeting on Disaster Risk Reduction that also endorsed the Programme of Action for the Implementation of the Sendai Framework in Africa (Mauritius, November 2016)⁷

This chapter draws on the analysis in the previous chapters to review key priority areas outlined in the Sendai Framework of particular relevance for Africa in implementing and monitoring DRR. The chapter concludes by outlining the next steps and priorities for Africa during the transition from the HFA to the Sendai Framework.

What's new and relevant in the Sendai Framework for Africa?

The Sendai Framework both builds and expands on many of the themes and priorities for action identified in the HFA, while introducing new areas of focus. The Sendai Framework places more emphasis on implementation than its predecessor and includes seven clear global DRR targets.

There are a number of focus areas in the Sendai Framework that have particular relevance to the findings in this report and also for future DRR progress tracking in Africa.

Increased focus on implementation

The assessment of progress against HFA priorities (chapter 3) shows that critical DRR initiatives and activities have been established in many countries, but have faced challenges in effective implementation. For example, a large number of African countries have put DRR legislation in place but have experienced financial and technical constraints, and in some instances a lack of political will

in activating and enforcing legislative provisions.

One of the successes of the HFA has been establishing national platforms for DRR in many African countries. Despite facing legal and financial constraints, the national platforms have been instrumental in building momentum and ensuring continuity once established. Yet many countries cited lack of technical and institutional capacities to strengthen national platforms and ensure timely delivery of their objectives.

The Sendai Framework calls on governments to consider revising relevant legislation, in order to ensure that national strategies and DRR plans are translated into action. The Framework also seeks to deepen DRR interventions by calling for greater focus on subnational as well as national platforms on DRR.

As outlined earlier, a Programme of Action for the Implementation of the Sendai Framework in Africa was developed and adopted. To achieve the expected outcome and goal of the Sendai Framework in Africa, this proposes to:

- Strengthen coherence and integration among DRR, climate change adaptation and mitigation, ecosystem management, conflict and fragility, and other development imperatives
- Strengthen long-term capacities, including DRR coordination mechanisms
- Develop gender-sensitive DRR strategies and programmes that address risk drivers
- Systematically incorporate risk reduction measures into design and implementation of disaster

preparedness, response and recovery programmes

- Develop practical tools and mobilise resources to contribute to the implementation of DRR programmes and projects.

Hazard classification

Whereas the HFA focused largely on natural hazards, the Sendai Framework recognises the need to also include biological and man-made hazards in planning and implementing DRR. This widening of hazard classification is of particular relevance for many countries in the Africa region where biological hazards are frequent and can have major impact. Analysis of international disaster statistics (chapter 1) shows that biological disasters accounted for 38% of the 2,156 disaster events in Africa between 1985 and 2015. Biological disasters have also accounted for half of recorded disasters in the 18 national disaster (loss) databases.

Including biological and technological hazards within DRR policies and plans will require increased collaboration between different government agencies, as well as NGOs and private sector entities that deal with health and man-made hazards. The Sendai Framework emphasises the need for multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

The Sendai Framework calls on UN Member States to determine the extent to which historical loss databases, and risk assessments currently cover the expanded natural hazard scope of the Sendai Framework. Databases and risk assessments enable improved understanding of the hazards and their impacts and so need to be included in national and local strategies and plans on DRR.

Drivers of risk

The Sendai Framework calls for more dedicated action to tackle many of the underlying disaster risk drivers identified for the African continent (chapter 2), including climate change, poverty and inequality, unplanned and rapid urbanisation, environmental degradation and declining ecosystems, population pressures, poor governance and weak institutions.

The need for coherent implementation of plans, policies and investments in DRR and climate change adaptation is a recurring theme in the Sendai Framework. Climate change as a driver of risk has particular significance for Africa, which has been identified as the continent that will suffer the most severe consequences (see chapter 2).

Chapter 2 of this report highlights high levels of poverty and inequality as key drivers of risk in many African countries. Despite strong economic growth in a number of African countries, the highest concentration of the world's extremely poor people is likely to continue to be in Africa. The Sendai Framework again calls for strong coherence across policies, institutions, goals, indicators and measurement of DRR, sustainable development and poverty eradication.

Health as a new area of focus

Of particular significance for Africa, given the impact of biological hazards (see chapter 1) in the continent, is the inclusion of health as a key focus area for the Sendai Framework. There is a strong emphasis on resilient health systems through the integration of disaster risk management into healthcare provision at all levels. Four of the seven global targets have direct links to health, focusing on reducing mortality, population wellbeing, early warning, and promoting the safety of health facilities and hospitals.⁸

Measuring progress against the Sendai Framework

One of the key guiding principles of the Sendai Framework is the primary responsibility for preventing and reducing risks as well as monitoring progress lies with the states.

The seven global targets of the Sendai Framework aim to provide quantifiable goals for countries to achieve in order to demonstrate progress in DRR. Following the adoption of the Sendai Framework, the UN General Assembly established an Open-ended Intergovernmental Expert Working Group on Indicators and Terminology relating to Disaster Risk Reduction (OIEWG) to develop a set of indicators and terminology to measure global progress on the implementation of the framework. The group is composed of experts nominated by States and supported by UNISDR, and other relevant stakeholders.

The revised terminology and global indicators were finalised by the OIEWG in its third and final session in November 2016⁹ and will be considered for adoption by the UN General Assembly in early 2017. It is planned that full monitoring of DRR progress will begin in 2020 – a challenge, given that of the 193 UN Member States, UNISDR assesses that currently around half the countries have half of the data needed.¹⁰

Challenges for the Africa region in implementing and monitoring DRR

Financing DRR

In chapter 3, financial constraints were identified across all the priority areas of the HFA as a barrier for implementing and prioritising DRR in many African countries. The low priority given to risk reduction in national budgets, the continued preference to focus

on emergency response to disaster, the lack of a standard DRM budget monitoring system, and simply a lack of available finances have been given as reasons for the shortfall in finances to support DRR.

As acknowledged in chapters 3 and 4, tracking funding for DRR in national budgets is complicated and sometimes problematic. Difficulties with tracking resources present a challenge when trying to assess whether investments are currently sufficient to manage multiple risks in a country. Many countries operate traditional budget systems that focus on financial compliance and are not typically geared to enhancing policy clarity or effectiveness.¹¹ Where data is available there is great variability in the reporting of budgets and expenditure at national and state levels in different countries. In addition, DRR is seen as a cross-cutting subject, making measuring financial allocations all the more challenging, despite the potential of making fiscal savings from doing so.

There have been recommendations to include specific DRR budget codes in national budgets.¹² Such codes indicate whether a budgeted activity has a DRR purpose or focus and would be used across all ministries and agencies. Useful lessons can be drawn from other cross-sector policy objectives included in national budgets. The Nepalese government through the Ministry of Finance and National Planning Commission has introduced a climate budget code to allow for tracking of expenditure related to climate change.¹³ The initiative has tracked an allocation of 10.3% of Nepal's 2013/2014 national budget to climate change funding.

Supporting governments in Africa to allocate funding to DRR and track their investments in DRR could be a useful indicator for assessing

countries' progress against the Sendai Framework.

Understanding and measuring risk

A key feature of the Sendai Framework is the shift in focus from managing disasters to managing risks, which requires a better understanding of risk in all its dimensions of vulnerability, exposure and hazard processes. The Sendai Framework gives greater prominence to the role of science in managing risks and identifies understanding risk as one of the four priorities of action at the local, national, regional and global levels across all sectors.

Risk-informed decision-making requires effective monitoring of hazards and risks, accurate and usable data and appropriate information dissemination mechanisms. Chapter 3 identifies a lack of systematic collection and information management for DRR data and the lack of a standard framework for risk assessment as current barriers for many African countries to effectively manage risk. Access to technology and information on risk and DRR is noted as particularly weak at the community level with 50% of the countries analysed reporting a lack of national disaster information systems. Half of the countries monitored in this report (see chapter 3) also reported that their scientific research agenda does not include DRR, highlighting a capacity gap across the region.

A lack of financial resources and human capacity inhibits many countries' ability to invest effectively in the technology and infrastructure to manage and monitor risk. Concerns about security for field investigations to gather information on hazards, exposure and vulnerability has led to increasing reliance on remote sensing to gather information on DRR.

There have been numerous technological advances in monitoring hazards and risks in recent years that could be used more widely across the continent. Technological remote sensing, from space or drones for example, could revolutionise the ability to characterise landscapes and inform risk assessments for hazards such as flooding and sophisticated satellite data for monitoring weather extremes. However, there are issues relating to access to technology and information. While there are examples of its effective use in the continent, much of the expertise and resources to access and use technology such as satellite data are in the developed world. Challenges related to costs, capacity, capability, knowledge and technology transfer as well as accessibility within many African countries are barriers to using such technologies fully for DRR.

Investments in the technology, science and human capacity to understand hazard and risk are needed to monitor and plan DRR effectively and these should be a priority area of focus for the continent.

Managing risk and building resilience: a global priority

The establishment of the Sendai Framework preceded a series of major global accords in 2015–2016 that all recognised the importance of managing risk and building resilience against hazards, including the Addis Ababa Action Agenda on Financing for Development, 2030 Agenda for Sustainable Development, Paris Agreement on climate change and World Humanitarian Summit. These are explored in turn below.

Addis Ababa Action Agenda – Financing for Development

Before the official launch of the post-2015 sustainable development agenda and the Sustainable Development

Goals (SDGs), government representatives and heads of state met to establish a forward-looking framework that could be used to support their implementation. The outcome document repeatedly states the importance of ensuring development efforts enhance resilience in the face of multiple risks and threats including financial and economic crises, conflict, natural disasters, disease outbreaks, environmental degradation and climate change.¹⁴ A commitment is outlined to invest in efforts to strengthen the capacity of national and local actors to manage and finance disaster risk, as part of national sustainable development

strategies, and to ensure that countries can draw on international assistance when needed.¹⁵

2030 Agenda for Sustainable Development and the SDGs

The 2030 Agenda for Sustainable Development was adopted by UN Member States as the global plan to end poverty, protect the planet and ensure prosperity for all.¹⁶ The agenda includes direct references to the Sendai Framework as well as outlining the importance of reducing risk to achieve the SDGs. A number of the goals and targets set out in the agenda can contribute to reducing risk and building resilience.¹⁷

Paris Agreement on climate change

The Paris Agreement, agreed at COP21, was adopted by 195 countries as the first-ever universal, legally binding global climate deal.¹⁸ Both the Paris Agreement and the Sendai Framework recognise the importance of linking climate change adaptation with DRR. At COP21, governments agreed to provide continued and enhanced support to help societies' deal with and adapt to the consequences of climate change. The agreement also recognises the importance of reducing the losses and damages caused by the adverse effects of climate change, and outlining early warning systems, emergency preparedness and risk insurance as important areas of focus and investment.¹⁹

World Humanitarian Summit

In May 2016, 173 Member States were joined by representatives from civil society, non-government organisations (NGOs) and the private sector in the first-ever World Humanitarian Summit. As with the other major processes of 2015–2016, a recurrent theme at the Summit was the need for increased investments that can respond to and mitigate risk.²⁰ The report of the Secretary-General for the Summit references the Sendai Framework alongside the sustainable development agenda in a call to move away from costly crisis response and to refocus on prevention and preparedness measures that anticipate and prevent crises.²¹

The need for significant investment in collecting data, monitoring and analysing risk information before, during and after crises was also outlined as a key priority. A call was made to establish a comprehensive action plan to significantly strengthen

BOX 5.1

Resilience and risk reduction goals and targets in the SDGs

The work of the OIEWG, as described earlier, is in complete coherence with the work of the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs). The following SDGs and targets are strongly linked with the Sendai Framework targets:

Goals

Goal 1: End poverty in all its forms everywhere

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 13: Take urgent action to combat climate change and its impacts

Targets

Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

Target 11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

the response capacities of the 20 most risk-prone countries by 2020.²²

The transition from the HFA to the Sendai Framework – The next steps

The Mauritius Declaration has endorsed a Programme of Action for the Implementation of the Sendai Framework in Africa. This builds on the Africa Regional Strategy (2004), and hence will continue to be the key tool to facilitate the transition from the HFA to the Sendai Framework in Africa.

The OIEWG has developed a set of indicators for measuring progress against the Sendai Framework global targets. Work on the national-level targets and indicators will commence in 2017. The Programme of Action has also recommended that African countries adopt some additional targets to measure DRR progress.

It needs to be underscored that the measurement of DRR progress using these indicators against time-bound targets generates an element of impact – what is not measured may often not happen. Hence, African States need to review their readiness to report against the Sendai Framework and SDG monitoring systems and examine

their capabilities on data generation, collection, recording, synthesis and reporting as an immediate priority during the transition from HFA to Sendai Framework. This needs to build on the existing mechanisms and tools that measure progress in DRR. These will be presented and discussed at the 2017 Global Platform for Disaster Risk Reduction.²³

Implementing the Programme of Action

The Programme of Action, as endorsed through the Mauritius Declaration, is the primary instrument for implementing the Sendai Framework in Africa. It expands on the Sendai Framework Priorities for Action, outlining the priority activities with specific timeframes, expected outputs and lead institution responsible for implementation. It also elaborates on the means of implementation in terms of functions, roles and responsibilities of stakeholders at continental, regional, national and subnational/local levels.

Harmonising the global platform agenda with regional agendas

A further priority is refocusing and realigning the agendas of the global and regional platforms to enable

continuity and coherence at all levels. In particular, further development and guidance are needed on the role of platforms in monitoring progress to foster more efficient planning, create common information systems and exchange good practices and programmes.

Implementing the International Strategy for Disaster Reduction

The UN Secretary-General's August 2015 report on implementing the International Strategy for Disaster Reduction includes several recommendations to be undertaken in the next few years.²⁴ It highlights the priority areas needed to build the foundations for successful implementation of the Sendai Framework. This includes reviewing current DRM practices and prioritising the assessment of disaster risk, including developing baselines to assess disaster risk trends within the next three years. Over the next five years, prioritisation should also be given to developing national and local DRR policies, strategies and plans with input from all stakeholders. Due consideration should also be given to establishing or strengthening existing national mechanisms for DRR, such as national and regional platforms.

Notes

Chapter 1

- 1 Terminology related to disaster risk reduction updated technical non-paper (2016) prepared by UNISDR as the secretariat to the Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Related to Disaster Risk Reduction (OIEWG).
- 2 UNISDR Regional Office for Africa, 2016, *Central African lawmakers step up disaster risk reduction*. Available at: <http://www.unisdr.org/archive/49346>
- 3 Development Initiatives, 2015. *Global Humanitarian Assistance Report 2015*. Available at: <http://www.globalhumanitarianassistance.org/report/gha-report-2015/>
- 4 United Republic of Tanzania's country profile is found under Zanzibar. Zanzibar of the United Republic of Tanzania has been covered under DesInventar while the coverage is currently being enhanced nationally.
- 5 The national disaster loss databases will become the primary source of information for measuring the first four global targets of the Sendai Framework for Disaster Risk Reduction 2015–2030. Available at: <http://www.unisdr.org/we/coordinate/sendai-framework>.
- 6 This report considers only natural hazards. Technological or man-made hazards are not assessed.
- 7 See Annex for definition
- 8 CRED, 2015. *The Human Cost of Natural Disasters*, p 42.
- 9 WHO, 2015. *Sanitation Factsheet No 392*.
- 10 See: <http://www.kpmg.com/Africa/en/IssuesAndInsights/Articles-Publications/Documents/The-State-of-Healthcare-in-Africa.pdf>; and <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/strengthening-sub-saharan-africas-health-systems-a-practical-approach>
- 11 Climate & Knowledge Development Network (CDKN), 2014. *Fifth Assessment Report: What's in it for Africa?* p 20.

- 12 CRED, 2015. *The Human Cost of Natural Disasters*, p 23.
- 13 However, according to the Global Assessment Report (2015) vulnerability early warning is as important as hazard early warning. Evidence on recurrent disasters in the Horn of Africa shows early warning is not effective when chronic livelihood crises are at their peak resulting in extreme pressure on food prices, livestock survival, water and food availability.
- 14 CRED, 2015. *The Human Cost of Natural Disasters*, p 23.
- 15 Food and Agriculture Organization (FAO), 2015. *The impact of disasters on agriculture and food security*, p 45.
- 16 WHO, 2016, *Situation report on the Ebola virus disease*. June.

Chapter 2

- 1 INFORM Index for Risk Management mid- 2016 v 0.2.9 ranked 192 countries worldwide over 3 to 5 years according to their disaster risk to hazard and exposure in terms of natural (earthquake, flood, tsunami, tropical cyclone and drought) and human (projected conflict risk and currently highly violent conflict intensity); vulnerability including socioeconomic (development and deprivation, inequality and aid dependence) and vulnerable groups (uprooted people, health conditions, children under 5, recent shocks, food security and other groups); and coping capacity , that is, institutional (DRR and governance) and infrastructure capacity (communication, physical infrastructure and access to healthcare).
- 2 UNISDR, 2009. *Global Assessment Report. Disaster risk drivers: the deadly trio – made deadlier by climate change*. (press document). Available at: http://www.preventionweb.net/english/hyogo/gar/press/documents/UNISDR_insert_2-DR-drivers_prFINALI-r.pdf
- 3 IPCC, 2007. Climate Change 2007: Working Group II: Impacts, Adaptation and Vulnerability. Available at: https://www.ipcc.ch/publications_and_data/ar4/wg2/en/spmssp-c-7-africa.html

- 4 See: <https://maplecroft.com/portfolio/new-analysis/2014/10/29/climate-change-and-lack-food-security-multiply-risks-conflict-and-civil-unrest-32-countries-maplecroft/>
- 5 See: http://index.nd-gain.org:8080/documents/nd-gain_technical_document_2015.pdf. Vulnerability data is taken from <http://index.gain.org/about/download>. The file used is vulnerability.csv (not vulnerability_delta.csv, which is adjusted for GDP).
- 6 CDKN, 2014. *Fifth Assessment Report: What is in it for Africa?* p 4.
- 7 UNISDR Regional Office for Africa, 2016, *Central African lawmakers step up disaster risk reduction*. Available at: <http://www.unisdr.org/archive/49346>
- 8 CDKN, 2014. *Fifth Assessment Report: What is in it for Africa?* pages 10–11.
- 9 It predicts with regional variations and differing degrees of confidence, depending on the type of climate event (IPCC, 2014).
- 10 Analysis in this section is based on data from UNDP's department of economic and social affairs, population division database on urbanisation.
- 11 UN Habitat, 2015. Issue paper on informal settlements. Available at: http://unhabitat.org/wp-content/uploads/2015/04/Habitat-III-Issue-Paper-22_Informal-Settlements-2.0.pdf
- 12 UN Habitat, 2012. *State of the World's Cities Report 2012/2013: Prosperity of Cities*, p 94.
- 13 Ibid
- 14 UNEP, 2007. *Environment and Disaster Risk: Emerging Perspectives*, p12.
- 15 ELD Initiative and UNEP, 2015. *The Economics of Land Degradation in Africa: Benefits of Action Outweigh the Costs*, p 16.
- 16 FAO, 1995. *Land and environmental degradation and desertification in Africa*. Available at: <http://www.fao.org/docrep/x5318e/x5318e02.htm>
- 17 WWF, 2015. *Living forests report*: Chapter 5: Saving forests at risk, pp 29–32.
- 18 CRED, 2015. *The Human Cost of Natural Disasters*, p 28
- 19 UNISDR, 2015. *Poverty and Inequality*. Available at: <http://www.preventionweb.net/risk/poverty-inequality>
- 20 World Bank, *Report on the status of Disaster Risk Reduction in sub-Saharan Africa*, p 3.
- 21 Beegle K, Christiaensen L et al, 2016. *Poverty in a Rising Africa*, p 4.
- 22 See: <https://www.weforum.org/agenda/2015/06/the-13-fastest-growing-economies-in-the-world/>
- 23 Zedillo E, 2015. *Is Africa's growth sustainable?* World Economic Forum. Available at: <https://www.weforum.org/agenda/2015/08/is-africas-growth-sustainable/>
- 24 IPCC, 2014. *Fifth Assessment Report: What is in it for Africa?* p 20.
- 25 UNISDR, 2015. Available at: <http://www.preventionweb.net/risk/poverty-inequality>
- 26 Moon, Ban K, June 16, 2007. *A Climate Culprit in Darfur*. Washington Post. Available at: www.washingtonpost.com/wp-dyn/content/article/2007/06/15/AR2007061501857.html?utm_term=.6d2042ab31df
- 27 Burke MB, Miguel E et al, 2009. *Warming increases the risk of civil war in Africa*. Proceedings of the National Academy of Sciences 106 (49): 20670–20674. Available at: <http://www.pnas.org/content/106/49/20670.full>
- 28 GRID, 2016. Global report on internal displacement 2016, p 4.
- 29 UNEP, 2011. *Climate Change, Conflict and Migration in the Sahel*.
- 30 Swain A, Swain, RB et al, 2011. *Climate Change and the Risk of Violent Conflicts in Southern Africa*. Center for Sustainable Development, Uppsala University, p 11.
- 31 Feinstein International Center-Tufts University, 2013. *Conflict Management and Disaster Risk Reduction: A case study of Kenya*, p 11.
- 32 Centre for International Governance Innovation (CIGI) Special Report, 2009. *Climate Change in Africa: Adaptation, Mitigation and Governance Challenges*.

- 33 UNDP, 2011. *Disaster-Conflict Interface: Comparative experiences*, p 17.
- 34 GRID, 2016. *Global report on internal displacement 2016*, p 52.
- 35 Ferris E and Petz D, 2012. *The Year that Shook the Rich: A Review of Natural Disasters in 2011*, p103.
- 10 UN list of LDCs, May 2016 http://www.un.org/en/development/desa/policy/cdp/ldc/ldc_list.pdf
- 11 Development Initiatives, 2015. *Getting poverty to zero: financing for social protection in least developed countries*, page 4. <http://devinit.org/wp-content/uploads/2015/05/Getting-poverty-to-zero.pdf>

Chapter 3

- 1 See: <http://www.preventionweb.net/english/hyogo/progress/reports/?pid:223&pil:1>
- 2 AFRP Bulletin. Available at: http://www.unisdr.org/files/35308_5thafriaregionalplatform.pdf
- 3 See: http://www.igadportal.org/attachments/592_DRM_COMMUNIQUE.pdf
- 4 See: http://www.unisdr.org/files/40967_40967progressandchallengesindisaste.pdf pages 29–30
- 5 IGAD and EAC. *Progress report on the implementation of HFA and Programme of Action for the Africa Regional Strategy: The case of IGAD and EAC Sub-Regions*, page 5. Available at: http://www.preventionweb.net/files/30143_annex8igadandead.pdf
- 6 National platform is a generic term for national mechanisms for coordination and policy guidance on DRR that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities in a country.
- 7 See: http://www.preventionweb.net/files/35266_nationalplatformsreview.finalreport.pdf page iv and http://www.unisdr.org/files/45687_capacityassessmentnatplatformafrica.pdf page 24
- 8 UN Population Division's Department of Economic and Social Affairs estimated Africa's population to be close to 1.2 billion in 2015, a significant increase from 550 million in 1985 with an average annual population growth rate of 2.6% over this period.
- 9 See: http://www.ituc-africa.org/IMG/pdf/SOCIAL_SECURITY_BK_FINAL_COPY_5_March_2012_V11_1_.pdf page 9
- 12 See <http://devinit.org/wp-content/uploads/2016/07/Pro-poor-orientation-of-budgets-The-case-of-Uganda.pdf>, page 12.
- 13 International Finance Corporation. Excerpts on the blended finance mechanisms/projects, page 4. Available at: <http://www.ifc.org/wps/wcm/connect/242afe004c60ea82b81bbccacf53f33d/EMCompass+-+Blending+Public+and+Private+Finance.pdf?MOD=AJPERES>
- 14 See note 13
- 15 World Bank, 2016, *Dull Disasters? How Planning Ahead Will Make a Difference*, page 23. Available at: <http://documents.worldbank.org/curated/en/962821468836117709/pdf/106944-PUB-add-isbn-PUBLIC-9780191088414.pdf>
- 16 Cameroon, Côte d'Ivoire, Gabon, Guinea-Bissau, Mali, Senegal, Togo, Kenya, Tanzania, Lesotho, Mauritius and Swaziland
- 17 An innovative solution through SMS has been established by the International Federation of Red Cross and Red Crescent Societies. The Trilogy Emergency Relief Application (TERA) SMS system is a mobile phone application that allows aid agencies and mobile phone users in disaster areas to interact and listen in real time. It helps in delivering timely, targeted advice to disaster affected communities and it also helps to give communities a voice. See: <http://www.ifrc.org/en/what-we-do/beneficiary-communications/tera/>
- 18 IMF, 2015. *Regional Economic Outlook: Sub-Saharan Africa*, chapter 3: Inequality and Economic Outcomes in Sub-Saharan Africa, page 55.
- 19 Enarson, E, 2000. *Gender and Natural Disasters. Infocus Programme on Crisis Response and Reconstruction Working Paper*. Recovery and Reconstruction Department, ILO, Geneva, page10

- 20 See: <http://www.unisdr.org/we/advocate/gender>
- 21 UNDP, 2011. *Disaster-Conflict Interface: Comparative experiences*, page 17.
- 22 Countries with gender disaggregation of risk assessments are: Burkina Faso, Burundi, Côte d'Ivoire, Ethiopia, Gambia, Guinea, Malawi, Mozambique, Seychelles, South Africa
- 23 See: http://www.preventionweb.net/files/35266_nationalplatformsreview.finalreport.pdf page 35

Chapter 4

- 1 ODI, 2015. *Financing for reducing disaster risk: 10 things to know*. Available at: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9480.pdf>
- 2 African Risk Capacity, 2015. *G7 endorses African Risk Capacity as model for climate insurance*. Available at: http://www.africanriskcapacity.org/documents/350251/844579/ARCLtd_Pool2Announcement_EN_150706_Final.pdf
- 3 UNISDR, 2015. *Disaster Risk Reduction Private Sector Partnership: post 2015 framework-private sector blueprint: Five Private Sector Visions for a Resilient Future*. Available at: http://www.unisdr.org/files/42926_090315wcdrrpspublicationfinalonli.pdf
- 4 Santam, 2014. *Business Adopt-a-Municipality initiative: lessons learnt from a multi-stakeholder collaborative approach*. Available at: <https://www.santam.co.za/media/3998/final-baam-executive-summary.pdf>
- 5 Club Africa News. *Why the 'Beira Masterplan' is a show case for other African cities*. Available at: <http://www.your-bizbook.com/en/Club-Africa-News/why-the-beira-masterplan-is-a-showcase-for-other-african-cities>
- 6 Reuters, 2016. *'Threatened by climate change, Mozambique's Beira bets on urban renewal'*. Available at: <http://www.reuters.com/article/us-mozambique-climatechange-idUSKCN0Z013Y>
- 7 UNISDR, 2014. *The Fifth Africa Regional Platform on Disaster Risk Reduction, session of the private sector business and industry*. Available at http://www.unisdr.org/files/37777_10.privatesector.pdf
- 8 Uses data from Development Initiatives, 2016. *Global Humanitarian Assistance Report 2016*. Available at: <http://www.globalhumanitarianassistance.org/report/gha2016/>
- 9 Global Facility for Disaster Reduction and Recovery and Overseas Development Institute, 2013. *Financing Disaster Risk Reduction – A 20 year story of international aid*. Available at: <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8574.pdf>
- 10 UNOCHA, 2014. *Humanitarian Bulletin West and Central Africa*. Available at: <http://reliefweb.int/sites/reliefweb.int/files/resources/HB%20ROWCA%20FEB%20FINAL.pdf>
- 11 Based on <http://www.xe.com/currencyconverter/> as of 07/11/2016
- 12 European commission, 2016. *Building Resilience: The EU's approach*. Available at: http://ec.europa.eu/echo/files/aid/countries/factsheets/thematic/resilience_en.pdf
- 13 USAID, 2015. Fact sheet – Resilience and Economic Growth in the Sahel – Enhanced Resilience. Available at: <https://www.usaid.gov/sites/default/files/documents/1860/REGIS%20ER%20Fact%20Sheet.pdf>
- 14 USAID, 2015. Fact sheet – Resilience and Economic Growth in the Sahel – Accelerated Growth. Available at: <https://www.usaid.gov/sites/default/files/documents/1860/REGIS%20AG%20Fact%20Sheet.pdf>
- 15 USAID, 2015. Fact sheet – *Sahel Resilience Learning Project*. Available at: http://pdf.usaid.gov/pdf_docs/PBAAE181.pdf
- 16 Global Facility for Disaster Reduction and Recovery, 2016. *Understanding Risk, Financing resilience in Sub-Saharan Africa*. Available at: <https://www.gfdrr.org/understanding-risk-financing-resilience-sub-saharan-africa>

Chapter 5

- 1 UNISDR, 2015. *Sendai framework for disaster risk reduction 2015–2030*. Available at: http://www.wcdrr.org/uploads/Sendai_Framework_for_Disaster_Risk_Reduction_2015-2030.pdf

- 2 UNISDR, 2004. *Africa regional strategy for disaster risk reduction*. Available at: <https://www.unisdr.org/we/inform/publications/4038>
- 3 UNISDR, 2010. *Extended programme of action for the implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015)*. Available at: <https://www.unisdr.org/we/inform/publications/19613>
- 4 UNISDR, 2015. *Seventh Africa Working Group Meeting on Disaster Risk Reduction*. Available at: <http://www.unisdr.org/we/inform/events/43907>
- 5 UNISDR, 2016. *Eight Session of Africa Working Group on Disaster Risk Reduction*. Available at: <https://www.unisdr.org/we/inform/events/47863>
- 6 UNISDR, 2016. *Ninth Session of Africa Working Group on Disaster Risk Reduction (extended)*. Available at: <https://www.unisdr.org/we/inform/events/50731>
- 7 UNISDR, 2016. *Sixth session of Africa regional platform and fifth high-level meeting on disaster risk reduction*. 22–25 November 2016. Available at: <http://www.unisdr.org/conferences/2016/afrrp>
- 8 UNISDR. Fact sheet: *Health in the Context of the Sendai Framework for Disaster Risk Reduction*. Available at: http://www.unisdr.org/files/46621_healthinsendaiframeworkfactsheet.pdf
- 9 UNISDR. Open-ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction. Available at: <http://www.preventionweb.net/drr-framework/open-ended-working-group/>
- 10 UNISDR, 2016. Countries back disaster risk reduction benchmark. Available at: <http://www.unisdr.org/archive/51039>
- 11 Allen R, Hemming R and Potter B (eds), 2013. *The International Handbook of Public Financial Management*. Chapter 9, page 193.
- 12 For example Darwanto H, 2012. *Preliminary examination of existing methodologies for allocating and tracking national government budget for Disaster Risk Reduction in Indonesia*. Available at: <http://www.preventionweb.net/english/hyogo/gar/2013/en/bgdocs/Darwanto,%202012.pdf>
- 13 UNDP. *Nepal allocates 10.34% of its 2013–2014 budget for climate funding*. Available at: <http://www.unpei.org/latest-news/nepal-allocates-1034-of-its-2013-2014-budget-for-climate-funding>
- 14 United Nations, 2015. *Addis Ababa Action Agenda of the Third International Conference on Financing for Development*. Point 4, page 2. Available at: http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf
- 15 See note 14, Point 62, page 30.
- 16 UN. Sustainable Development Goals. Available at: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- 17 UNISDR, 2015. *Disaster Risk Reduction and Resilience in the 2030 Agenda for Sustainable Development*. Available at: http://www.unisdr.org/files/46052_disasterriskreductioninthe2030agenda.pdf
- 18 UNFCCC, 2015. *Paris Agreement*. Available at http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf
- 19 European Commission. http://ec.europa.eu/clima/policies/international/negotiations/paris/index_en.htm
- 20 UN, 2016. *One Humanity: Shared Responsibility, Report of the UN Secretary-General for the World Humanitarian Summit*. Available at: <http://sgreport.worldhumanitariansummit.org/>
- 21 See note 20, Point 118, page 31.
- 22 See note 20, Points 119 and 120, page 31.
- 23 22–26 May 2017 – 2017 Global Platform for Disaster Risk Reduction. Available at: <http://www.unisdr.org/conferences/2017/globalplatform/en>
- 24 UN, 2015. *Implementation of the International Strategy for Disaster reduction – report of the Secretary-General*. Available at: <http://www.unisdr.org/files/resolutions/N1524453.pdf>



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