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منظمة الأمم المتحدة
للتربية والعلم والثقافة

联合国教育、
科学及文化组织

UNESCO-IPRED 9th Annual Session, &
International Conference on Impact of Natural Hazards in Africa Lessons from 1992 Cairo Earthquake
NRIAG - African Union – UNESCO
Cairo, 23-27 October 2017

MITIGATING NATURAL RISKS IN AFRICA

Djillali BENOUAR

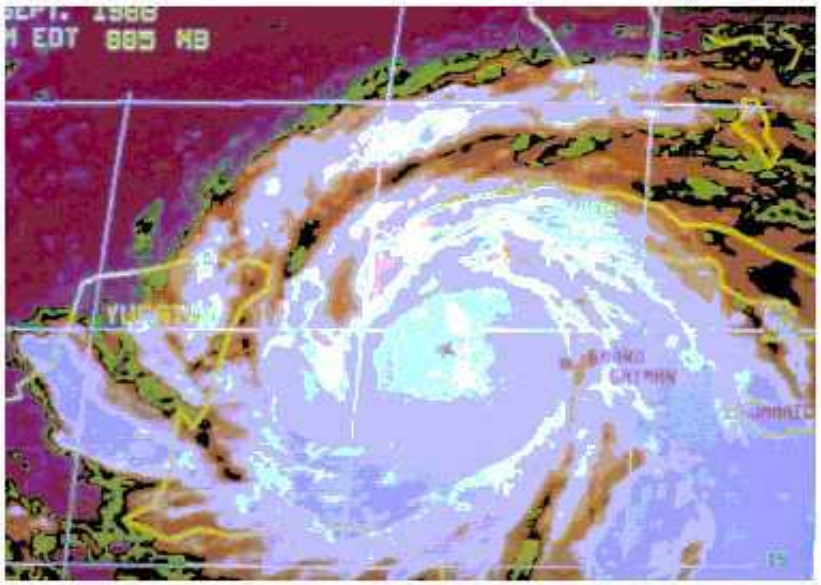
Algerian Academy of Sciences and Technologies (AAST)

Periperi U Member

IRDR SC Member

African Union

Natural Hazards in Africa



Algiers-Boumerdes (Algeria) 21st May, 2003

Bab El Oued (Algeria) Flood of November 10th, 2001

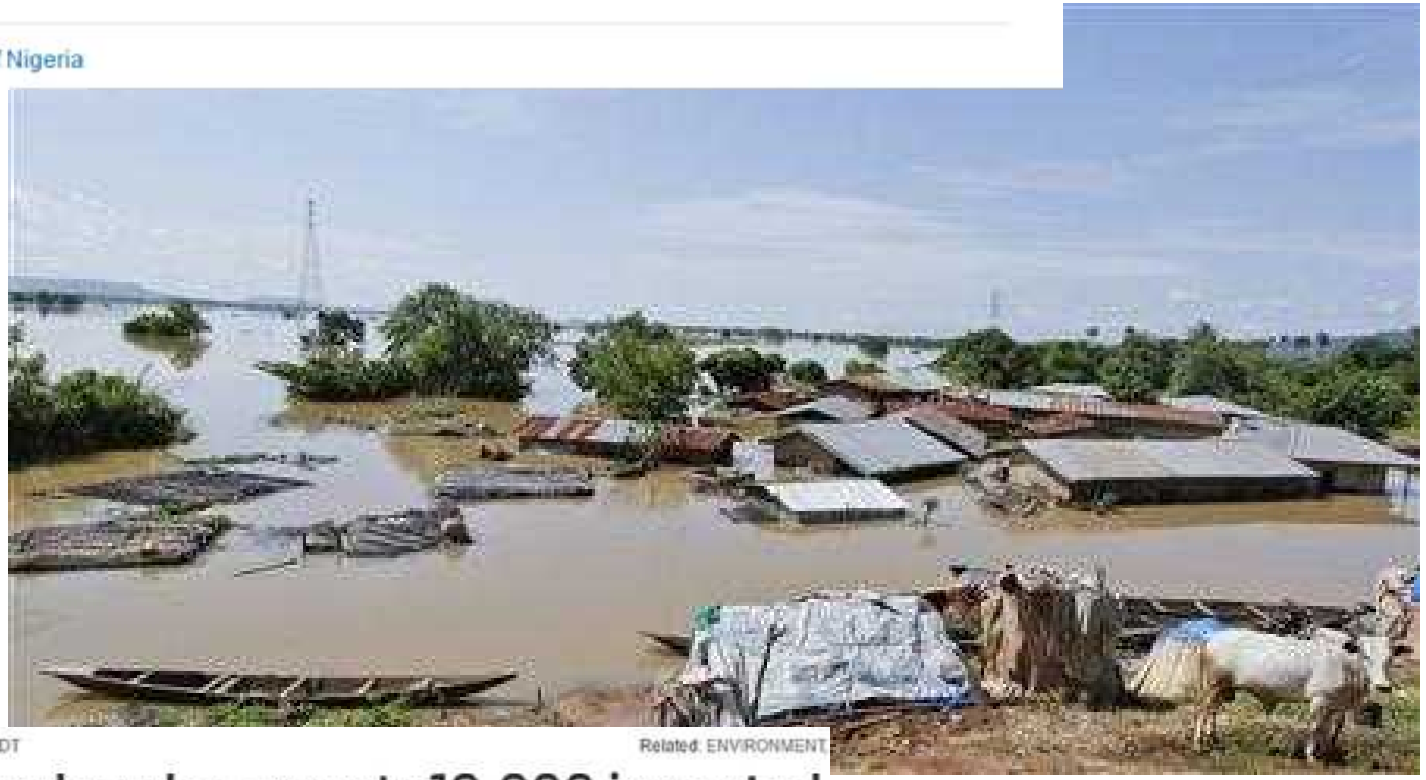
DAMAGE

Floods in Nigeria

03 Oct 2015 Print

37,610 hectares of farmland, 5,495 houses, 25,950 people affected by flood in Kebbi State

REPORT from Government of Nigeria

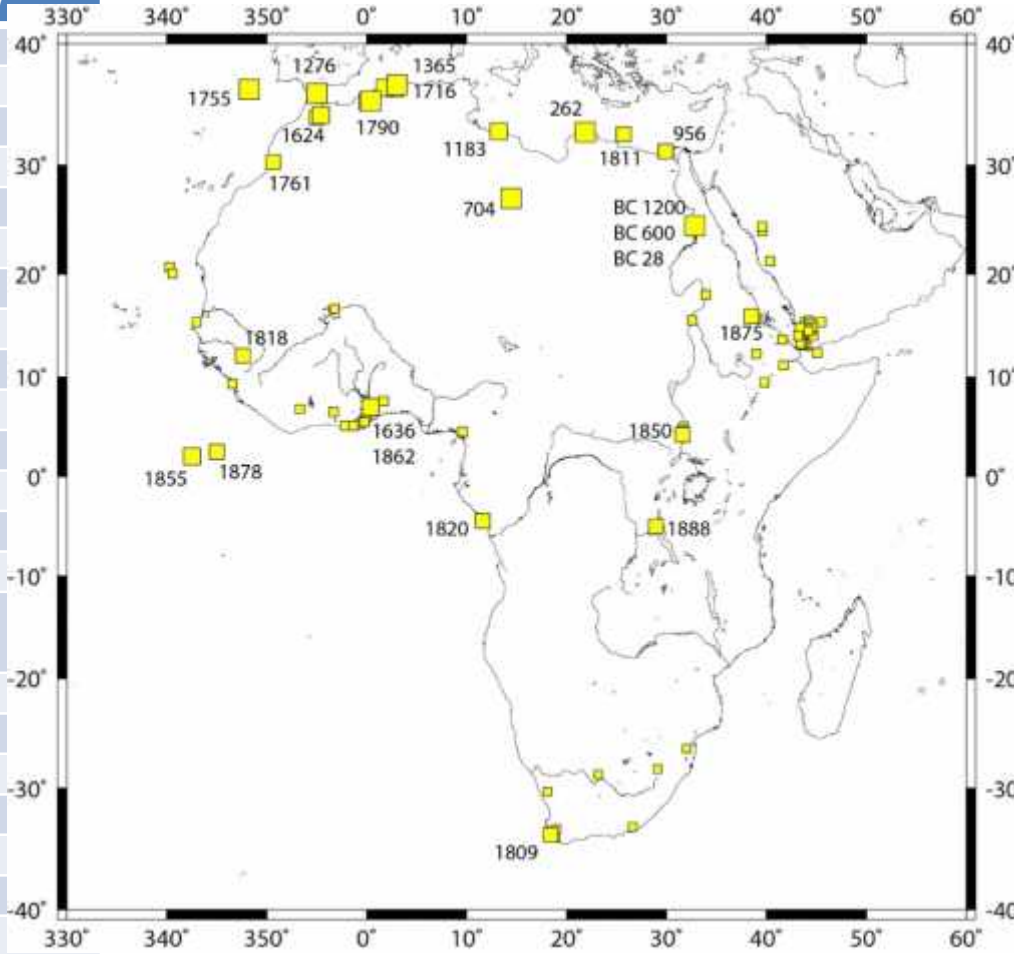


Technology | Thu Sep 27, 2012 11:05am EDT Related: ENVIRONMENT

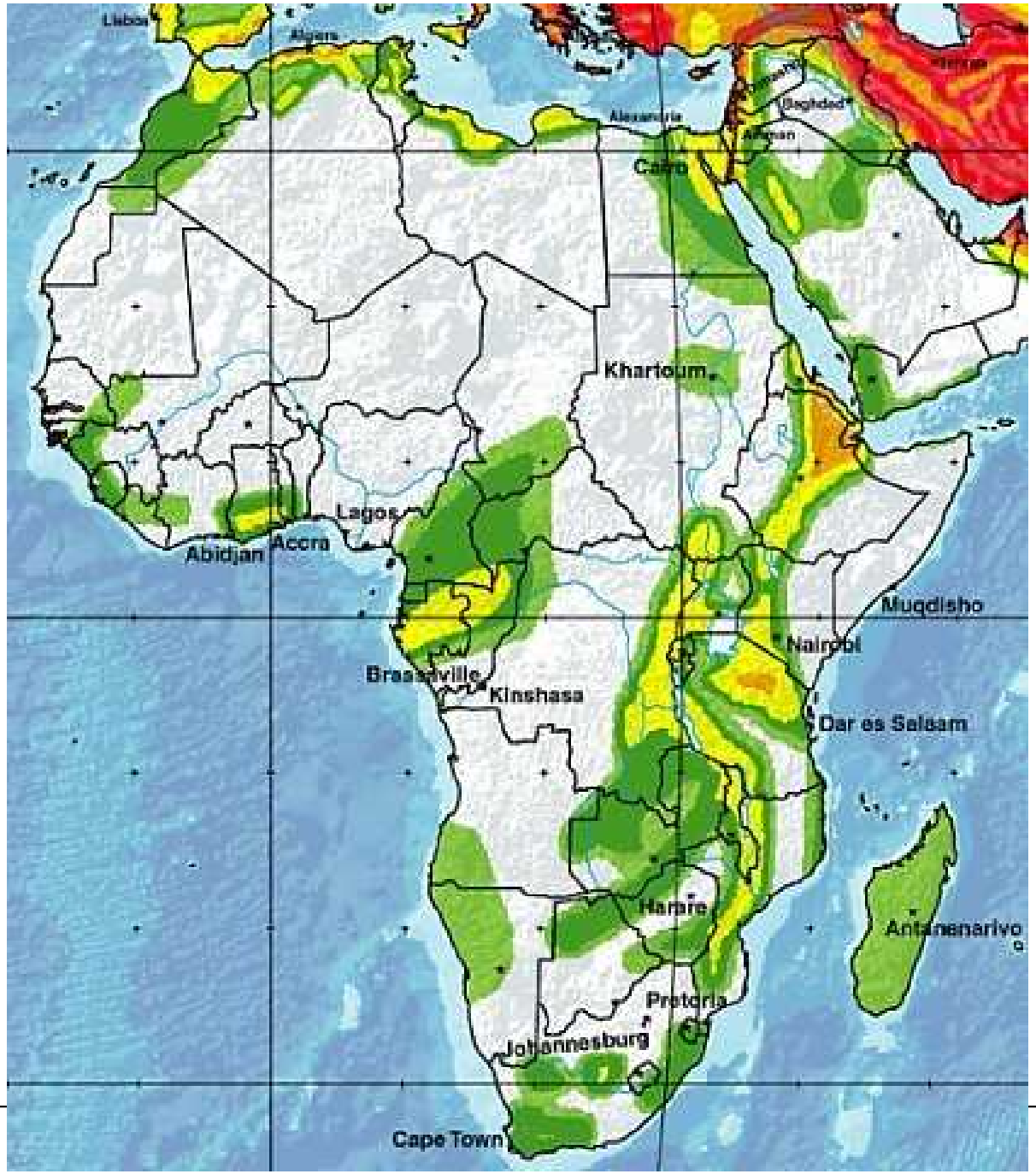
Worst flood for decades uproots 10,000 in central Nigeria

MAJOR EARTHQUAKES

Earthquakes	Dates	Latitude	Longitude	Mw
Lac Tanganyika	1910 Dec. 13	-6.5	29.5	7.4
El-Asnam, Algeria	1980 Oct. 10	36.23	1.32	7.2
Nuweiba, Egypt	1995 Nov. 22	28.81	34.80	7.2
Juba, South Sudan	1990 Mai 20	5.11	32.18	7.1
Subukia, Kenya	1928 Jan. 6	0.4	36.11	7.0
Al-Qadahia, Libye	1935 Apr. 19	31.38	15.4	7.0
Machaze, Mozambique	2006, Feb. 22	-21.32	33.58	7.0
Kalemie, Congo-Tanzania	2005 12 5	-6.25	29.79	6.8
Zemmouri, Algeria	2003, May 21	36.83	3.65	6.8
Orleansville, Algeria	1954 Sep. 9	36.28	1.47	6.7
Salima, Malawi	1989 Mar. 10	-13.71	34.49	6.6
Accra, Ghana	1939 Jun. 22	5.18	0.13	6.5
El-Hoceima, Morocco	2004, Feb. 24	35.14	-4	6.4
Dobi, Ethiopia	1989 08 20	11.75	41.96	6.4
Ceres, West Cape, S. Africa	1969 Sept. 29	-33.36	19.31	6.3
Kivu, DR Congo	2002 Oct. 24	-1.905	29.013	6.2
Karonga, Malawi	2009 Dec. 19	10.108	33.81	6.2
Gaoual, Guinea	1983 Dec. 22	11.95	-13.6	6.2
Mascara, Algeria	1994 Aug. 18	35.45	0.08	6.0
Bukavu, DR Congo	2008Fev. 2	28.74	-2.45	6.0
Rukwa, Tanzania	1994 Aug. 18	6.5	29.5	6.0
Agadir, Morocco	1960 Fev. 28	30.41	-9.6	6.0
Cairo, Egypt	1992 Oct. 12	29.78	31.14	5.8



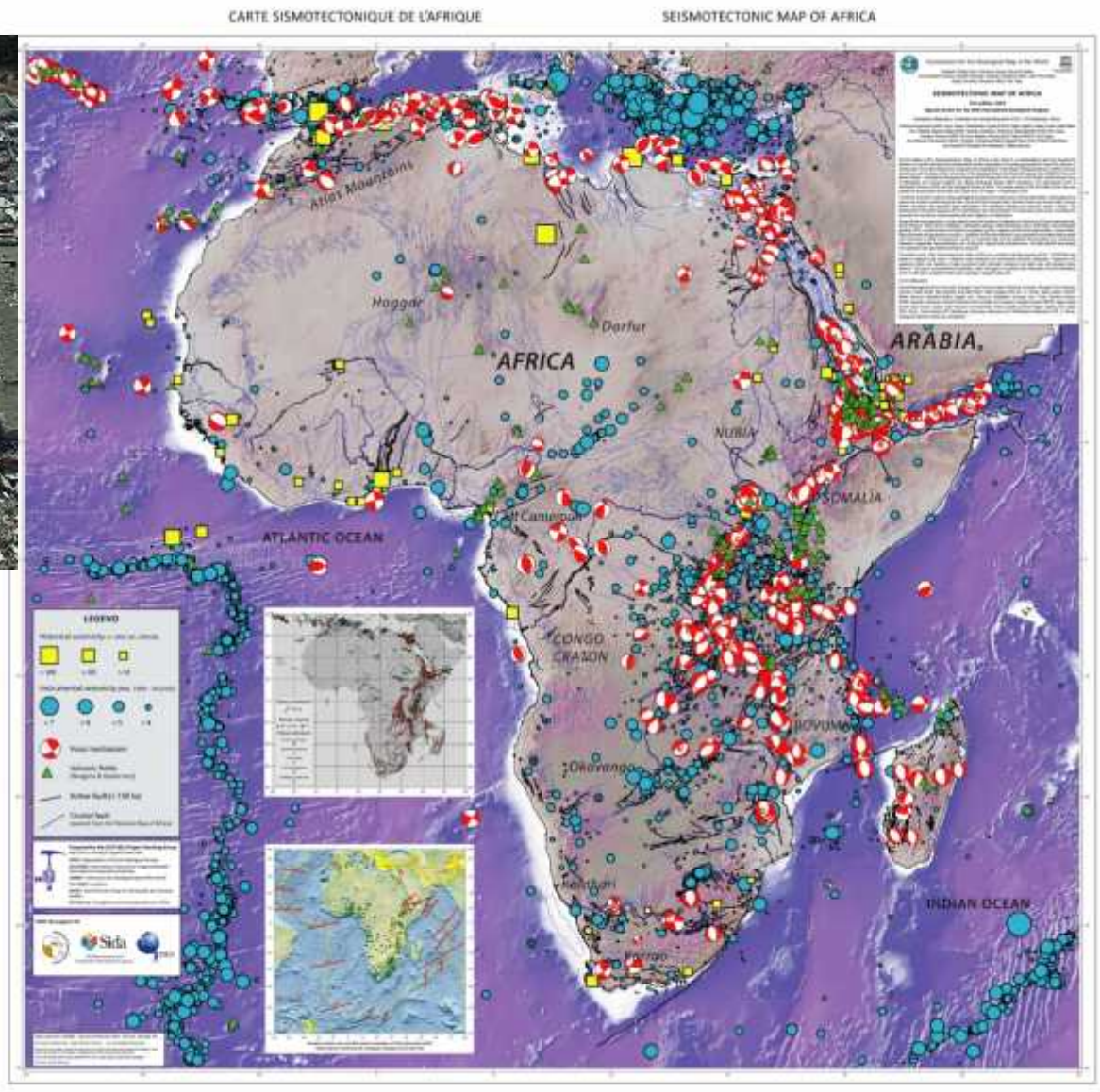
Observed suface fractures


Lisboa
Algiers
Alexandria
Cairo
Baghdad
Amman
Khartoum
Lagos
Abidjan
Accra
Muqdisho
Nairobi
Brazzaville
Kinshasa
Dar es Salaam
Harare
Antananarivo
Pretoria
Johannesburg
Cape Town

Zemmouri earthquake near Algiers

23/05/2003, Mw 6.8

- UNESCO - IGCP – 601 Project
- "Seismotectonics and Seismic hazards in Africa" with a map
- Published by the Commission for the Geological Map of the World (CGMW – UNESCO)
- Published in Episodes IUGS journal in August 2016



- Regional seismotectonic models
- Seismic zoning for Seismic Hazard & Risk Assessment

Africa: An Increasingly Diverse & Dynamic Risk Profile (Eg August-September 2017)

Fall Armyworm Invasion

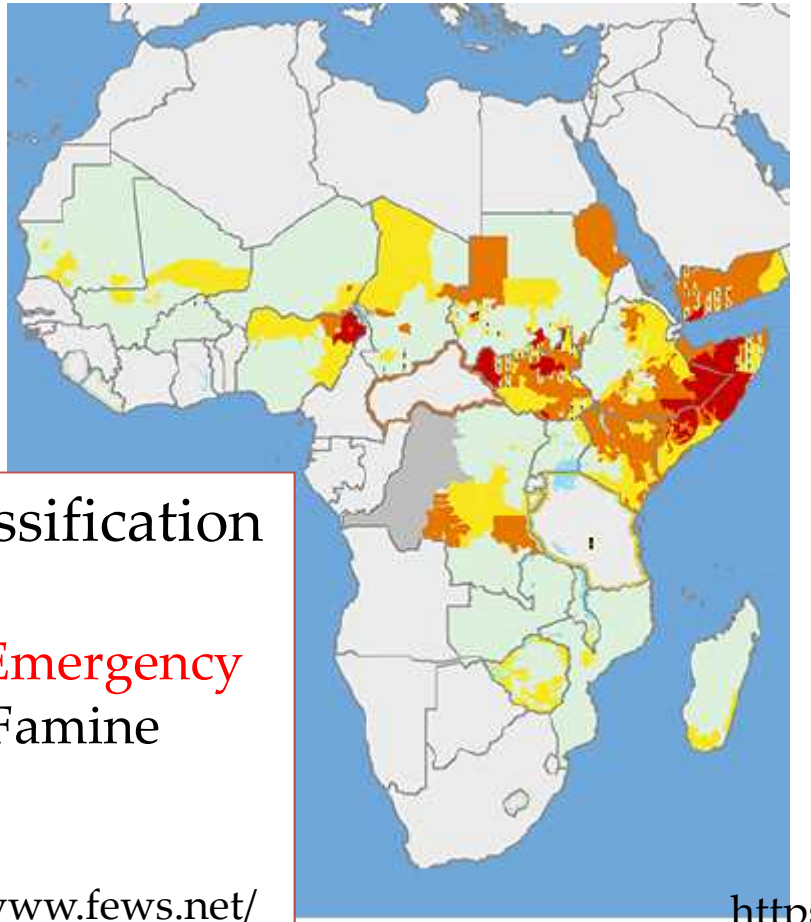
http://www.fao.org/3/a-bs183e.pdf

August 2017:

Chad: Cholera
CAR: Floods
S. Leone: Landslides
DRC: Landslides

September 2017

Togo: Floods



Integrated Phase Classification for Food Insecurity

1. Minimal
2. Stressed
3. Crisis
4. Emergency
5. Famine

FEWSNET, Sept 2017; http://www.fews.net/

August 2017

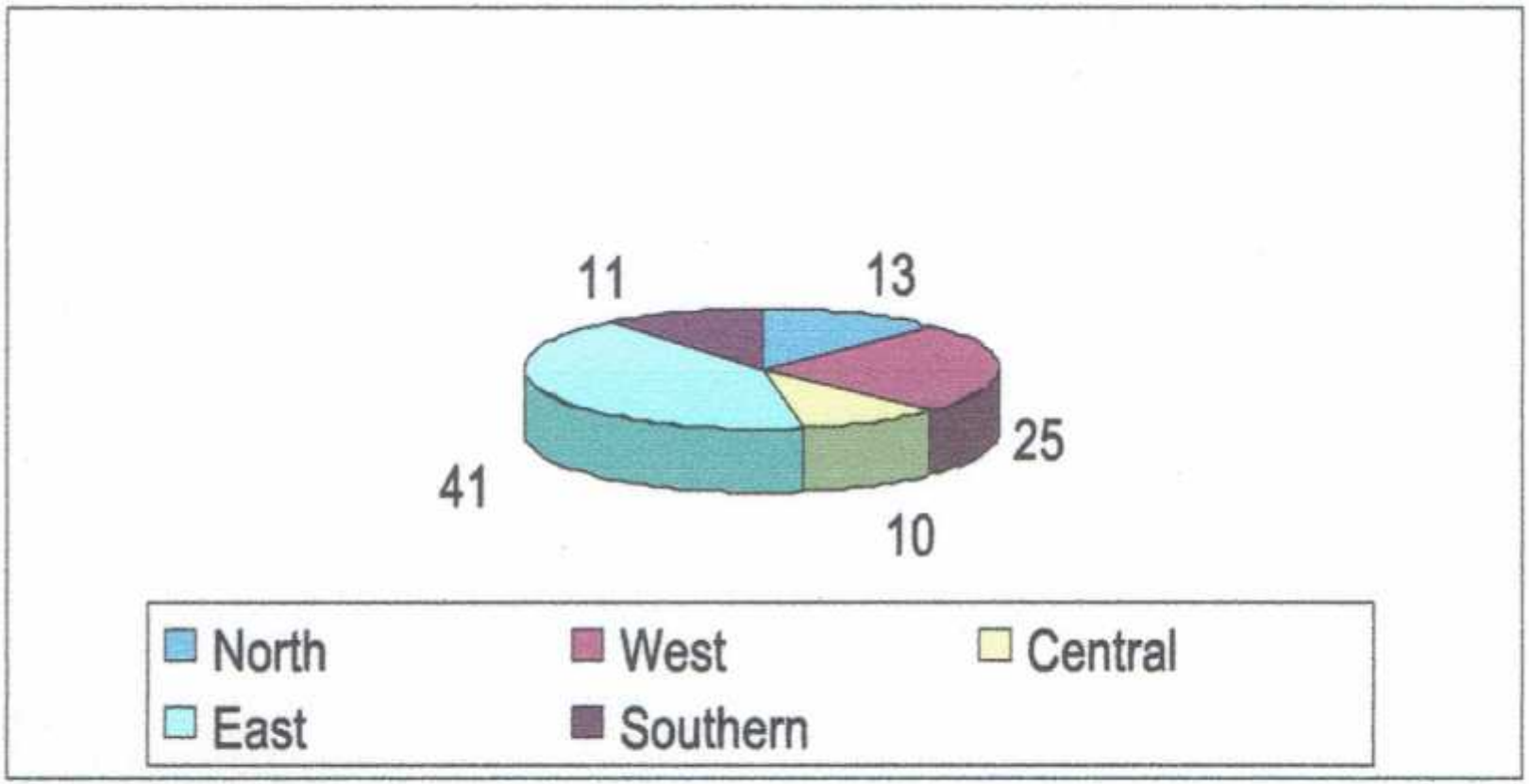
Ethiopia: Floods

September 2017

S. Sudan: Floods
Madagascar: Plague

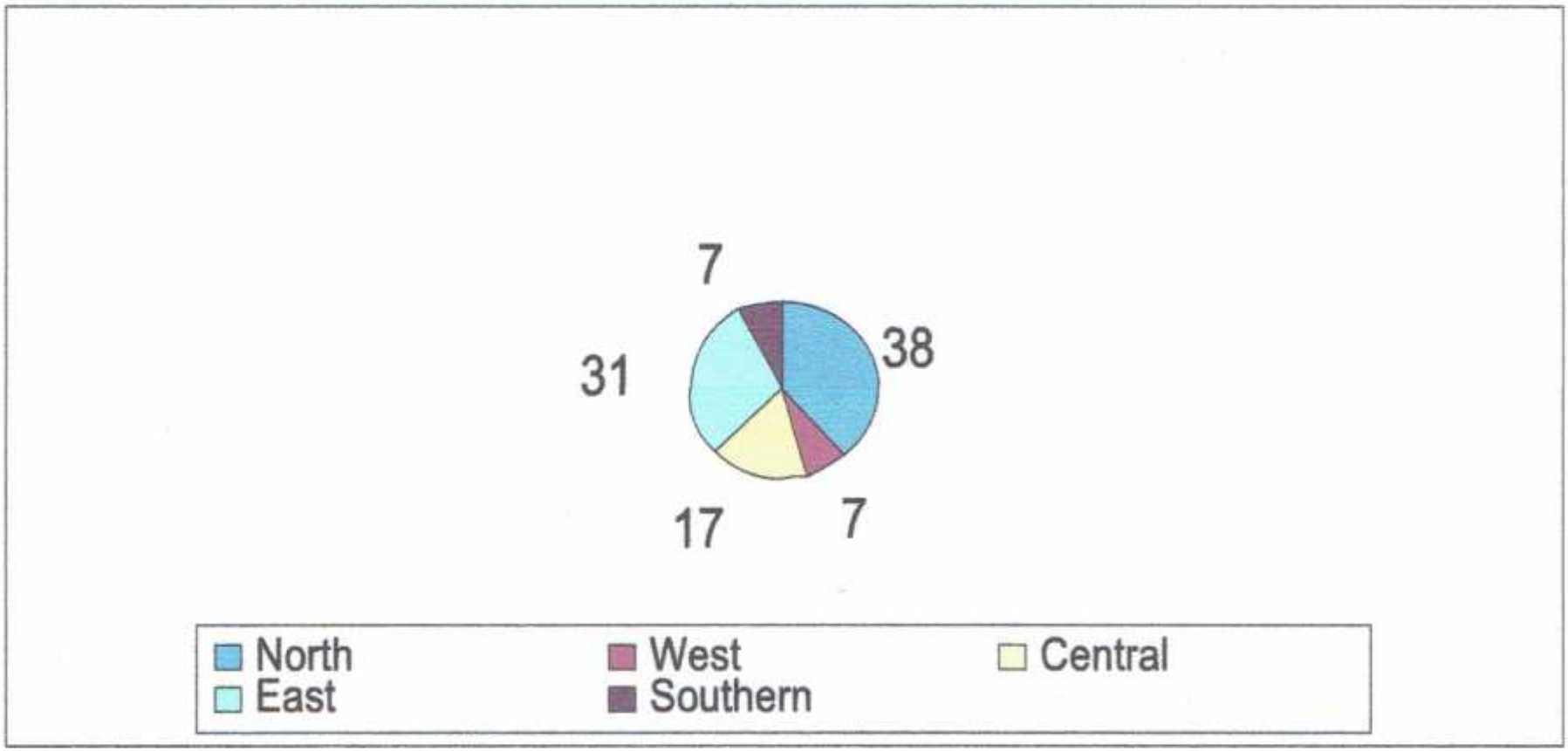
https://reliefweb.int/disasters

Figure 2: Hydrometeorological disasters in Africa: 1974 to 2003



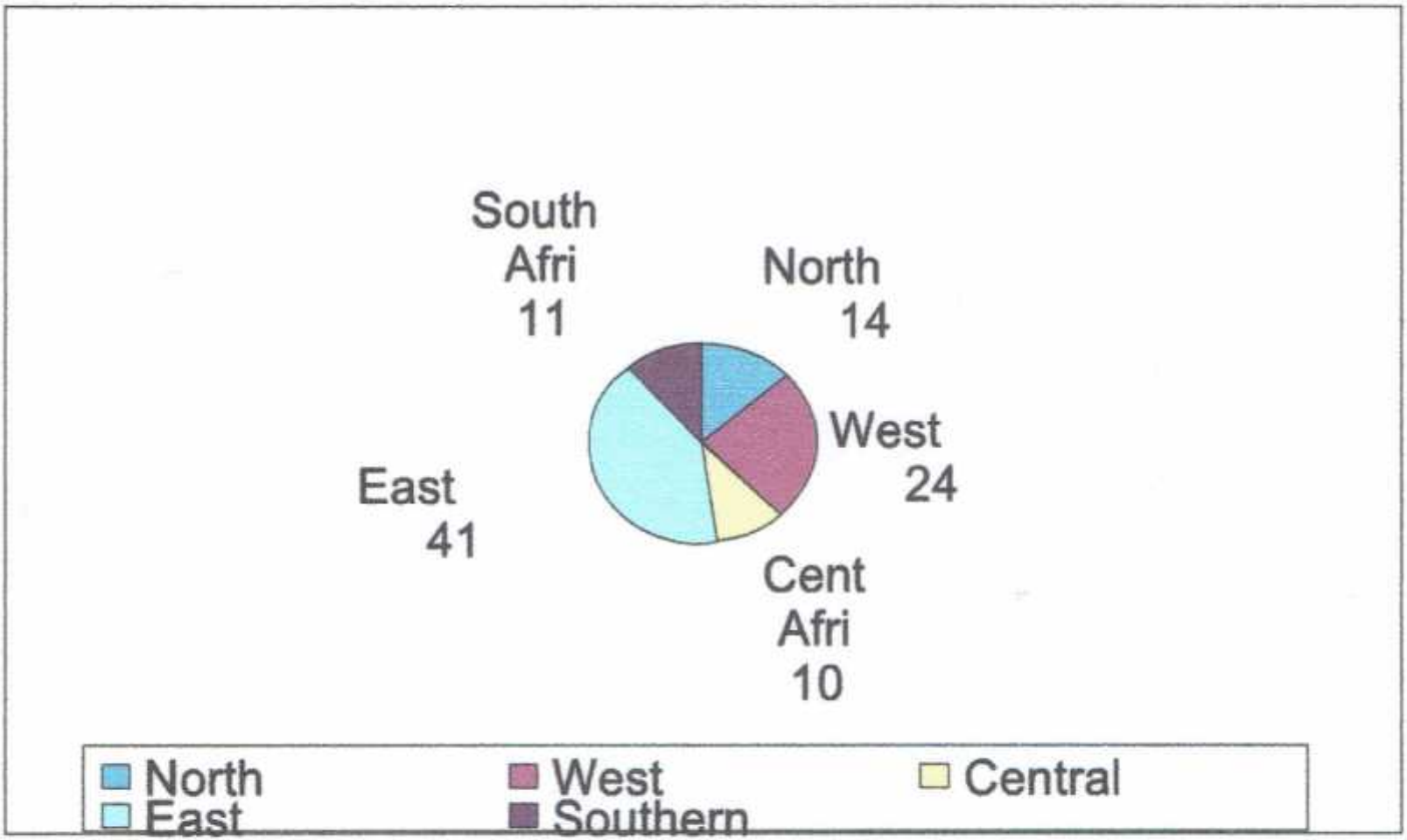
Source: CRED

Figure 3: Geological disasters in Africa: 1974 to 2003



Source: CRED

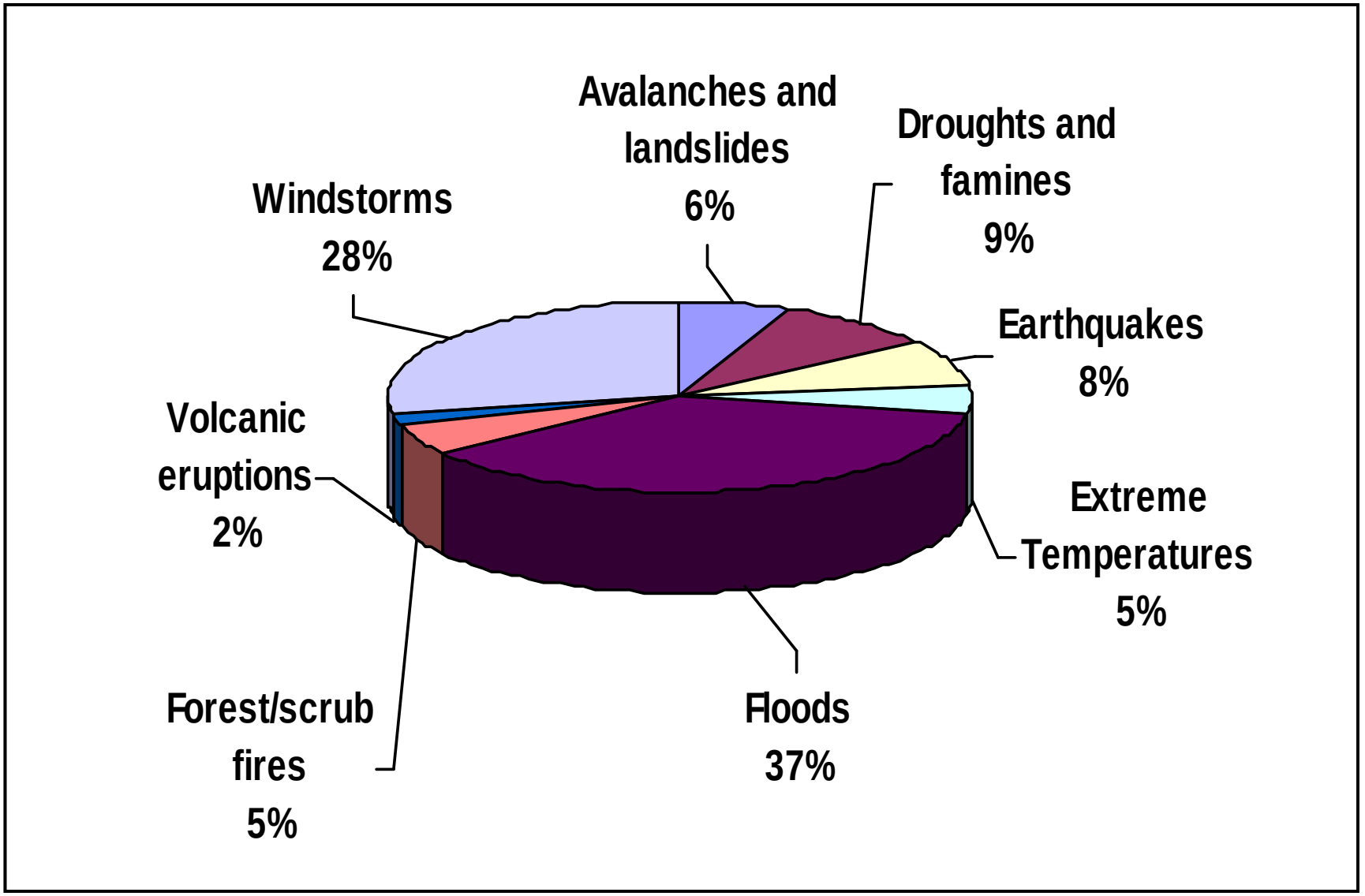
Figure 1: Natural disasters in Africa: 1974 to 2003



Source: CRED

- African countries face a growing threat of hydro-meteorological and geophysical disasters. Droughts, floods, earthquakes, water-related epidemics, storms and cyclones are increasingly reducing opportunity and wrecking havoc in communities.
- While, Geological hazards have a far smaller impact in the region than hydro-meteorological hazards. On average, earthquakes have accounted for 8 percent and landslides 6 percent and volcanic hazards for 2 percent of the region's disasters over the past two decades.
- African countries display substantially differential progress towards the achievement of Hyogo Framework for Action targets, one that reflects the different national policies, vulnerability profiles, institutional frameworks and political incentives in place to address rising climate-related disasters,and that they do not follow a unidirectional trajectory towards the implementation of DRMguide- lines.

Distribution of disasters in Africa



Introduction

This presentation aims to provide a thematic review on disaster risk governance in Africa, in the light of international developments in the field. This retrospective assessment of progress achieved in disaster risk governance in Africa aims to identify achievements, good practices, gaps and challenges against the HFA indicator “Priority 1: Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation”.

Introduction

During the last decade, Africa enjoyed unprecedented rates of economic growth, with new technologies, better governance, and increasing investment flows creating new opportunities for innovation and economic and human development. Yet across the continent, vulnerable populations continue to contend with recurrent crises and stresses that leave them struggling to recover and unable to expand economic opportunities or to improve well-being. Recurrent shocks and stresses—caused by conflict, climate variability, disease, and natural hazards—too often overwhelm traditional coping mechanisms and create a corrosive cycle of fragility and risk.

Introduction

- Many African states find themselves in an acute state of disaster risk.
- Most of these were created and shaped by the harsh but also abundant African climate and landscape.
- However, African communities have always been resourceful and adaptable.
- This is evident in centuries of rich history often not well known to western societies.
- Africa is home to thousands of different cultures, groups and ethnic affiliations.

- The disaster risk profile of Africa is rooted in its turmoil history and geographical features. Although the mortality rate due to disasters is decreasing in Africa, the number of people affected, and the economic impact of disasters on the continent, is increasing (United Nations, 2011). This can be largely ascribed to improvements in development (including urbanisation) and economic activities (McClean, 2010). The major hazards effecting people and livelihoods in Africa are hydrometeorological in nature. Various types of floods, drought, wild fires, cyclones and epidemics rate highest of all hazards (van Niekerk & Wisner, 2014). Volatile vulnerability conditions, rooted in extreme poverty and underdevelopment, makes the African environment one of the most at-risk on Earth.

- The adoption of the Hyogo Framework for Action (HFA) in 2005 by over 160 countries emphasised a new and almost united international focus on disaster risk reduction. The HFA and subsequently the African Regional Strategy for Disaster Risk Reduction and its Plan of Action (ARSDRR) (African Union Commission United Nations International Strategy for Disaster Reduction, 2010) heralded a new era for many African states in the management of disasters and their risks. Governments no longer had to assume helplessness to the threat of disasters or when they eventually strike (Bang, 2013). The HFA and ARSDRR provide robust frameworks which aim to empower governments to address issues of disaster risk and disaster risk reduction in a holistic and multi-sectoral nature through a policy scope.

- Actions to mainstream disaster risk reduction by a number of governments are heartening, especially when the emphasis which many scholars and policy makers place on the need for sustained political will for disaster risk reduction, become a reality.
- As of the early 2000s, many Africa governments find themselves in the midst of a paradigm shift from traditional civil protection, disaster management, and preparedness and response to disaster risk reduction in the context of appropriate planning with an emphasis on sustainable recovery linked to development.

- This is evident in the number of new multi-sectoral policies, plans and legislation that have seen the light since 2000.
- Unfortunately it is also some of the countries most at risk to disasters that do not yet have in place comprehensive and binding legal instruments or well defined, developed and functioning institutional structures for disaster risk management.

Political will

- One of the elements which seems to be present in all countries is political will:
- Legislation, Policies, Plans, Frameworks, Accountability, Transparency, Efficiency, Responsiveness, Predictability and Trust.
- National initiatives to develop institutional frame works have been generally successful in establishing the policies, legislations, plans and agencies for disaster management , but implementation has not been systematic.

Centralized coordination

- Multi-sectoral centralised structures, Development integration, Participation, Understanding disaster risks, Planning to reduce, prepare for, and recover from disasters:
- National disaster risk reduction platform
- National Disaster Risk Management Centre/Office
- Other committees (e.g. climate change adaptation, food security, water and catchment management) and Plans.

Decentralised implementation

Most countries adopt decentralized implementation of DRR.

- Local ownership and decision-making, Development integration, Delegation and provision of authority, Clear role and responsibility division and Local inter-sectoral coordination:
- Localised policies, plans, bylaws, frameworks Participation
- Networks
- Volunteers
- Involvement of at-risk groups
- Budget
- Community-based disaster risk management

All country set-ups had provincial structures and most countries designate disaster management structures at district levels but only a few have municipality level structures.

Horizontal and vertical stakeholder involvement

- Civil society, Community/citizens, Public authorities, Civil servants, Politicians, Media, Private sector and Gender:
- Public private partnerships
- Private sector initiatives
- Corporate (social) responsibility
- Community engagement and Structures
- Local disaster risk ownership
- Local plans
- Development integration

Communication

- Various horizontal and vertical communication channels, Advocacy, Right to information:
- Information flow and application
- Public awareness
- Networks
- Culture of risk avoidance/safety
- Appropriate decision-making

Assets

- Human resources, Financial resources, Capacities and Indigenous knowledge:
- Skilled and knowledge staff and community members
- Budget allocations
- Formal and non-formal education and training
- Research
- DRR/development integration into project design
- Social protection mechanisms
- Application of indigenous
- knowledge systems

Risk analysis and management

- Disaster risk profiles and mapping:
- Evidence of disaster risk reduction
- Risk maps
- Risk communication

REGIONAL DISASTER RISK REDUCTION

Regional and sub-regional organizations and countries have made efforts to develop their policies, legislation, plans and agencies for disaster risk management.

The following are disaster management players and policies at the regional level:

- **The Commission of the African Union (AU)**

The Constitutive Act of the African Union (AU) seeks to achieve human security for the peoples of Africa, which includes strengthening resilience to disasters. Thus, the AU and its predecessor, the Organization of African Unity (OAU) have been concerned with the issue of disaster management and have made efforts to promote risk-sensitive development.

The AU has played a key role in providing policy direction and popularizing the DRR approach in Africa

The AU developed, in partnership with NEPAD, UNISDR, UNDP and AfDB, the African Regional Strategy for Disaster Risk Reduction which was approved by AMCEN and favorably received at the 2004 African Union Summit. The strategy aims to increase political commitment to DRR, improve identification and assessment of disaster risks, enhance knowledge management for DRR, increase public awareness of DRR, improve governance of DRR institutions, and integrate DRR into emergency response management.

NEPAD promotes food security, poverty reduction and sustainable development. Current programs developed by NEPAD that directly or indirectly contribute to the reduction of risks from disasters include programs in the environment and agriculture sectors which contain sections on disaster management and entire programs in education, health, regional infrastructure and market access.

Institutional Setup

- **National Disaster Management Organizations (NDMOs):**

Nearly all countries have institutional structures generally responsible for the day-to-day operation of disaster management, including central planning, coordination and monitoring.

Africa Monitoring of the Environment for Sustainable Development (AMESD):

The objectives of AMESD are to ensure that Africa is better equipped to receive and apply meteorological information for development related to environment and natural resources, and has the capacity to process data and maintain satellite receiving stations in the region. AMESD will contribute to DRR in Africa as well as enhance climate change adaptation.

The Green Wall for the Saharan Initiative:

The 8th Ordinary Session of the African Union Summit of January 2007 also adopted a decision endorsing the Green Wall for the Sahara Initiative which aims to control land degradation, slow the advance of the Sahara Desert, and contribute to poverty reduction.

The Initiative is a long-term DRR strategy and a climate change adaptation measure.

Risk Analysis and Management

Almost all countries has certain gaps relating to the compiling of disaster risk profiles, risk mapping and risk communication. This can be ascribed to the lack of depth of knowledge present in government institutions on disaster risk reduction.

Some achievements in integrated risk management is noticeable, for example the integration of environmental concerns into the planning of Ministries such as Agriculture and Livestock, Energy and Minerals, Public Health and Trade and Industry, as well as infrastructure (e.g. urban flood management).

Risk Analysis and Management

- Despite growing urban centres in entire Africa, it is reported very little in terms of urban planning safeguards and risk management measures.
- Some progress has been made in urban flood management but little evidence exists to support such claims.
- It is apparent that the lack of skills and budget allocations for risk assessments remains a major challenge.

Financing:

It is difficult to obtain precise information on the financing of disaster management mechanisms but what evidence there is suggests that disaster management structures suffer from inadequate financial support.

Emphasis on Proactive Approach to Disaster Risk Reduction:

Disaster risk management in Africa had, up to now, largely been viewed as an event-driven field focused on preparedness and response to emergencies rather than a process-oriented discipline linked to development

Coping Strategies:

National policies and plans for disaster management have not explicitly focused on the need to strengthen traditional coping strategies, nor do they emphasize preservation of the local and traditional knowledge and experience that underlie these survival mechanisms.

Knowledge:

There are significant knowledge gaps in the management of DRR, especially inadequate attention to information management and communications, public a awareness, and training and research.

There are large gaps on disaster risks, best practices, and institutions and networks of practitioners, including insufficient disaster data.

Risk and Vulnerability Assessment:

Risk reduction starts with risk identification and assessment. Although it is not a new practice, risk identification has been limited, with few countries carrying out systematic hazard analysis and some countries reporting partial assessments.

Education:

DRR is generally not a part of the educational system curriculum as a separate discipline, although some national institutions have developed training in certain areas. These training activities are often to o costly for national authorities to engage in, while others simply focus on emergency management.

Implementation:

Information on specific projects and their implementation was generally inadequate.

Insurance and Finance:

Some schemes are beginning to emerge in Africa.

Poverty Reduction:

However, few countries have explicitly linked disaster reduction to their Poverty Reduction frameworks.

Sectoral Coordination:

Some national disaster management frameworks have clearly articulated the integration of disaster reduction in national development processes as an objective.

Conclusion

- Therefore, the major overall challenge for many African countries remains appropriate skills and funding to conduct risk analysis and compile risk maps.
- The disaster risk governance in Africa has come a long way since 2000. It is evident from the research that significant national political commitment for disaster risk reduction exists in most countries, which is unfortunately limited by the lack of skills and understanding at implementation level.

- Various policy and legislative measures have been put in place, and there is a drive towards multi-sectorial disaster risk reduction integration.

- The research identified a number of good practices, achievements, gaps and challenges in disaster risk governance taking the disaster risk reduction agenda beyond 2015.

- Notably is the absence of the foundational measurements for good governance such as accountability, transparency, efficiency, responsiveness, predictability and trust.
- It can be argued that without the basic foundational elements of good governance in place, good disaster risk governance will remain a challenge for most governments.
- National Disaster Management Organizations have been established, legislation is in place, a number of policy statements have been articulated, and political commitment to disaster risk reduction has been increasing gradually.

The overall conclusion is that Africa has made significant progress in disaster risk reduction, especially in terms of policies, institutions, and organizations.

THANK YOU VERY MUCH