

# Challenges against the Achievement of Disaster Risk Reduction Strategies in African States

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## Abstract

*Disaster risk reduction (DRR) strategies play a pivotal role in formalizing and enhancing the efficacy of disaster risk reduction efforts. The overall objective of this study was to assess the progress the African Union member states are making in developing DRR strategies as required by Target E of the Sendai Framework. The study used both qualitative and quantitative approaches where an in-depth desk review of DRR strategies and online questionnaires were administered to 53 respondents. The findings shows about 68 % of the AU member states have national strategies and 35% have sub national strategies but generally there is sluggish progress in updating DRR strategies in accordance with Sendai Framework Target E. An array of formidable challenges has come to light, casting a shadow over the seamless execution of these strategies. Weak technical and institutional capacities, paucity of financial resources, limited decentralization of DRR initiatives, and governance deficiencies emerge as pivotal obstacles that warrant immediate attention. In light of these findings, it is imperative for African governments and their collaborative partners to expedite the development of risk-informed strategies. By doing so, they can successfully actualize the visionary objectives set forth within the Sendai Framework.*

**Keywords:** DRR Strategies, Resilience, Sendai Target E, Risk informed planning

## Introduction

The UN Member States adopted the Sendai Framework for Disaster Risk Reduction 2015–2030 in 2015, with Target E being "to greatly increase the number of countries with national and local disaster risk reduction (DRR) strategies by 2020." The goal lays the groundwork for countries to meet all of the other goals and achieve risk-informed development and resilience by 2030.

Africa's countries face a myriad of development challenges, from poverty and environmental degradation to rapid population growth and urbanization that they are struggling to surmount through development planning. These development challenges interact with natural and human-induced hazards to create disaster risks that have potential cascading impacts across the continent (Fraser *et al.*, 2017). Building societal resilience to prevent disaster-related losses and damage to assets and livelihoods is a major concern of disaster risk reduction strategies and plans. The Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030, adopted by 187 UN member states at the third World Conference for Disaster Risk Reduction in Japan in 2015, has a commitment from governments to develop and implement their strategies, policies, and plans. The aim of the Sendai Framework, stated as a goal, is to 'substantial reduction in disaster risk and losses in lives, livelihoods, and health and in the economic, physical, social, cultural, and environmental assets of people, businesses, communities, and countries.' The stated outcome is 'Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience' (UNISDR, 2015). Implementation of the Sendai Framework is expected to mutually reinforce the implementation of the Sustainable Development Goals (SDGs), the Paris Agreement and further contribute to achieving Agenda 2063 commitment 'The Africa we want' (UNDRR, 2019; Manyena, 2016). Progress in achieving the stated goal and outcome is progressively being monitored by seven targets and four priorities of action.

The African Union (AU), in consultation with its member states and stakeholders, revitalized their commitment to the implementation of the Sendai Framework by updating the Programme of Action (PoA) to be in line with the Sendai Framework. The PoA, which was later endorsed by the member states, received overwhelming support from the African Heads of States and Governments as a means of stepping up efforts to achieve sustainable development and address disaster risks in a holistic manner on the continent (AU, 2017). In accordance with the Sendai Framework, PoA necessitates the collaborative engagement of various stakeholders, such as Non-Governmental Organizations (NGOs), academia, research organizations, the media, and donors, among others, to assist governments in implementing the strategies (van Niekerk, 2020). In 2018, for instance, the Intergovernmental Authority on Development (IGAD) developed their regional strategy in consultation with a variety of stakeholders. Member states are required to develop their strategies in line with the Sendai Framework, the PoA, and the sub-regional strategies. The AU, with six economic communities, plays a strategic guidance role for the member states in development and implementing strategies in line with the Sendai Framework (AUC, 2016).

The global assessment report on disaster risk reduction for 2019 (UNDRR, 2019a) emphasizes that the member states who endorsed the Sendai Framework have the primary and overall responsibility of designing and implementing these strategies. They can be required to work collaboratively with other stakeholders from civil society organizations, the private sector, and development organizations in the

design and implementation of the strategies. Depending on the context of the country, the DRR framework can take many forms, such as disaster laws, policies, regulations, strategies, and plans. The plans or strategies form the basis of understanding disaster risks, assigning responsibilities to stakeholders, allocating resources for resilience building and enhancing gender equity and the involvement of people who are more exposed and vulnerable to the disaster impacts (UNDRR, 2019b).

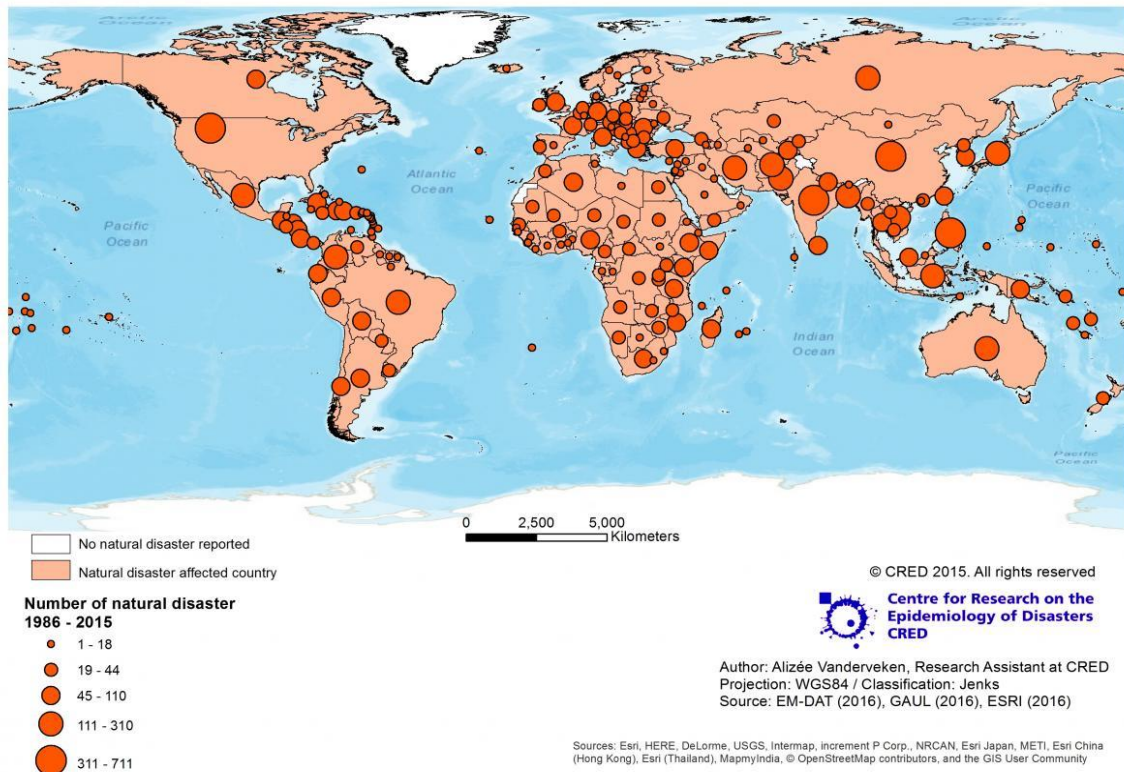
This paper discusses the progress the member states of the AU are making in achieving the Sendai Framework Target E in the mid-term. According to the SFDRR, Target E was required to be achieved by 2020 so that it could guide the implementation of other DRR activities that could contribute to reducing risks and strengthening resilience. The paper first discusses the risk profile of the continent, then the concept of DRR strategies and the critique of DRR strategies in the African context. Materials and methods are presented in section 2 together with variables for measurement. The findings and discussions sections are presented in section 3 followed by key conclusions.

### Disaster Risks and Vulnerabilities In Africa

Africa has made remarkable strides in economic growth, averaging 4.5 per cent in the last two decades. There have been remarkable improvements in life expectancy, school enrolment, and infant mortality since the turn of the century. The continent has a huge potential for economic growth, with Gross Domestic Product (GDP) projected to hit over \$20 trillion by 2040, with a youthful population driving the growth (UNECA, 2015). However, these development gains are under serious threat by disaster and climate change risks. The continent is exposed to a wide range of hazards, mainly hydro-meteorological, such as floods, droughts, landslides, storms, and cyclones. Besides, the continent is exposed to small and every-day hazards such as fires, localized floods, road crashes, and pest and disease outbreaks that cannot be ignored as they cause a lot of human suffering. These disaster risks are deeply rooted in the continent's inequality, environmental degradation, poorly planned but rapidly urbanizing settlements, state fragility, and population explosion (Fraser *et al.*, 2017). Consequently, this has seen the number of disaster incidents exponentially grow in Africa. Records from EM-DAT statistics show that Africa is exposed to and suffered from over 20 disasters, with eastern and southern Africa recording the most disaster events and sustaining the greatest losses in lives and economic aspects, particularly in the period 2015-2019 (AUC, 2019; Figure 1). Disaster risk is conceptualized to depend on the interaction of natural or human-induced hazards with vulnerable populations, livelihoods, assets, or the environment to culminate in a disastrous event (IPCC, 2012).

For decades, drought disasters have continued to have a devastating impact on people, livelihoods, and economies, particularly in the eastern, southern, and western parts of the continent. For instance, in the period 1900 – 2013, the continent witnessed 642 drought events that affected nearly 2 billion people and killed 11.7 million people (Masih *et al.*, 2014). In the Eastern Africa region between 1900 – 2017, over 100 drought events, fuelled by climate variability and change have occurred, affecting 217 million people and claiming 572, 000 lives (Haile *et al.*, 2019). Moreover, in the recent past there have been more severe and sustained droughts events of continental scale. These include the 1999–2002 drought in northwest Africa, the Sahelian droughts of 1970s and 1980s, the 2010–2011 drought in the Greater Horn of Africa (HoA), the 2001–2003 drought in southern and south-eastern Africa, with evidence suggesting multi-year occurrence of drought in a single decade (EMDAT, 2020). The impact of drought is projected to increase in frequency and intensity by up to 54 percent by end of the 21<sup>st</sup> century because of climate change thereby

putting development gains in the continent at risk (Haile *et al.*, 2019). This has serious implications in development as it may worsen food security, undermine progress educational, weaken agriculture and livestock sectors and stagnate economic growth in the continent unless appropriate strategies are designed and implemented to mitigate the effects of droughts and disaster risks.



*Figure 1: Global Disasters (1986-2015)*

Source: AUC Biennial report on the implementation of the Sendai Framework in Africa

It is instructive to note that the majority of the people impacted by disasters are the vulnerable and the poorest in the communities, living on less than two dollars a day. These vulnerable populations live in flood plains, coastal areas, hillsides, riversides, and other high-risk areas where they face a double burden of disaster risks and uneven development. This was clearly highlighted by the devastating impacts of cyclones Idai and Kenneth that hit Mozambique, Malawi, and Zimbabwe in early 2019, where over 1,300 mortalities were recorded and another 3 million were directly affected (Pelling and Garschagen, 2019). Most of the affected were the poor, whose daily income was less than USD 1.9 and who lived in remote, isolated places and in coastal settlements that were completely cut off from emergency services. This further aggravated the pre-existing vulnerabilities and poverty. Similarly, Hallegatte and Rozenberg (2017) found that the poorest 20% of Nigerians are 50 times more likely to lose their lives, livelihoods, and assets as a result of drought, exacerbating their vulnerability to shocks. The number of poor people living in extreme poverty is estimated to be on the rise in Africa and it is projected that nearly 9 in 10 people will be living in sub-Saharan Africa (World Bank, 2018), despite projected economic growth. People are often disproportionately affected by disasters, losing more of their wealth and less likely to cope and recover

from hazard impacts, highlighting the urgent need for their inclusivity in development planning to bridge the gap.

Thus, the continued rise in disaster risks, as demonstrated by the damage and losses from recent disasters, is attributed to the high vulnerability of the population, poverty, and weak economies and is worsened by minimal coping capacities. Besides, rapid population growth, poorly planned urbanization, and climate variability and change are likely to make disaster risks complex and complicated (UNDRR, 2019b). This has seen persistent escalation in the continental disaster risk index from an average of 4.8 in 2015 to 5.4 in 2019 and the continent hosting over ten countries in the top twenty out of 194 countries amidst developmental challenges and rising inequality (INFORM, 2020).

### **Disaster Risk Reduction Strategies**

Disaster risk reduction (DRR) strategies or frameworks are the cornerstone of reducing disaster risks and setting a formal strategic direction for building societal resilience to disasters and climate change risks. They are essential to cementing the roles and responsibilities of various stakeholders involved in disaster risk management, such as governmental and development agencies, the private sector, and civil society organizations that are involved in DRR activities with the active support and involvement of local communities who are most affected by disasters (IFRC, 2013). This is reflected in the SFDRR 2015–2030, which provides a clear policy pathway for guiding countries and communities to significantly reduce the effects of natural and human-induced hazards by 2030 compared to the 2005–2015 period (SFDRR, 2015). DRR strategies or frameworks are tools that support risk-informed planning and aid planners and decision makers to mainstream DRR into local and national development frameworks (UNDRR, 2017a). Thus, they are key in guiding and making integrated, coherent plans and actions at both the national and international level.

An effective DRR strategy should have clear targets, timelines, and indicators to measure progress toward a reduction in risks in the community. Additionally, the strategies should aim to reduce existing risk and new risk and provide mechanisms for managing residual risks where all-of-society engagement is required through coherent and comprehensive action to achieve societal resilience (UNDRR, 2017a). According to Target E of the Sendai Framework, governments were required to substantially increase the number of local and national DRR strategies and plans by 2020. They needed to be designed by addressing ten points to achieve Target E (UNDRR, 2015; UNDRR, 2017b). The extent of integrating the ten points, that is, supporting monitoring progress in Target E, is a measure of the degree of alignment to the Sendai Framework, which can also measure the quality of the strategies. The ten-point scale can be framed as questions to probe the quality of developed policies and strategies are:

- If the policy has timescales and indicators and targets
- If it aims at reducing new risk
- If it aims at preventing the creation of new risk
- If it aims at strengthening economic, social and environmental resilience.
- If it addresses priority number 1
- If it addresses priority number 2
- If it addresses priority number 3
- If it addresses priority number 4

- If it promotes policy coherence
- If it has mechanism for follow up and reporting.

There is consensus among many DRR practitioners that developing and implementing DRR strategies and plans in an integrated manner is crucial to reducing disaster risk in a comprehensive manner, a key outcome for AU member states in their sustainability trajectory. They should be developed to address the ambitions that are reflected in Agenda 2063: The Africa we want, the Sustainable Development Goals (SDGs) and the Paris Agreement in a coherent manner. These strategies and plans should embody the vision of the people and communities in relation to disaster risks in line with the development objectives and priorities of the continent (UNDRR, 2017a; Peters, 2018; Fraser *et al.*, 2017). Based on how they address disaster risk, the DRR strategies and policies promoted by the Sendai Framework can be categorized into three. These are: (a) DRR strategies and plans that prevent the creation of new disaster risks through prospective disaster risk management activities that focus on reducing risks that may develop in the future if DRR strategies are not put in place; (b) DRR strategies and plans that focus on reducing existing disaster risks through corrective disaster risk management activities, which are meant to remove or reduce disaster risks that are already present and which need to be managed and reduced now through structural or non-structural measures; and (c) strategies and plans that address residual risk in the community through compensatory disaster risk management activities that focus on building the environmental, health, social and economic resilience of individuals and societies in the face of anticipated residual risk through preparedness, response and recovery interventions and measures (UNDRR, 2017a).

Further research by the IFRC (2013), Wisner *et al.* (2012), van Niekerk (2015), and Nyandiko, 2020 validates the importance of DRR legislation, policy, and/or plans and emphasizes the significance of adequate disaster risk governance, involvement of decision makers and political leaders, effective decentralization of DRR, and strengthening of institutional capacities. These researchers particularly highlight the importance of de-centralizing disaster risk reduction measures to sub-national and community levels where the effects are most pronounced due to the location and concentration of vulnerable populations and assets that require corrective and prospective disaster risk management measures. Decentralization of DRR has the potential to address the marginalization of communities, enhance conflict resolution, reduce inequality and augment the provision of goods and services (Oloo, 2007; Amolo, 2010). Another reason advanced for DRR decentralization is that it is effective in promoting productive efficiency, pro-poor policies, encouraging participation of at-risk communities, and promoting transparency and accountability in governments (Nyandiko, 2020).

It is important to note that we are already past the year 2020, when Target E was set to be achieved. As we proceed toward 2030, countries need to be supported to accelerate the implementation of the DRR strategies developed to meet the ambition of Target E, which contributes to achieving the SDGs in Africa. Given that most countries on the continent suffer from acute governance and fragility challenges that would divert attention from investing in DRR, there is a need to address the interlinked challenges of DRR, conflict, and state fragility as well as climate change. This can be accomplished with the comprehensive and integrated support of development partners, academics, and civil society as critical enablers for building resilience in Africa (Peters, 2018).

## **Gaps In DRR Strategies and Plans or Frameworks**

Studies have shown that many DRR strategies are deficient in embracing decentralization, inadequate in providing for community participation, and lack coherence with the Sustainable Development Goals and other development frameworks. Besides, the majority of the existing DRR strategies have been found to focus on managing disasters, lack comprehensive measures for risk management, and are generally lacking in clarifying the roles and responsibilities of the many stakeholders involved in DRR (Van Niekerk, 2015; Nyandiko, 2020). Many DRR strategies in Africa have been found to be ineffective due to a lack of dedicated resources for implementation, limited technical and institutional capacities, and a lack of ownership from national and local leaders (UNDRR, 2017a; Manyena, 2016). Additionally, some DRR strategies have been shown to lack an inclusive and transparent governance mechanism at national and local levels.

Research has also shown that the first step in developing and implementing DRR strategies is the establishment of a coordination mechanism or identifying and enhancing an existing one at both national and community levels. In many countries and some sub-national governments, a coordination mechanism focused on DRR issues such as the National Platform for DRR or Local Platform for DRR is operational, such as Kenya, but a deficiency in technical knowledge for DRR is hampering its effectiveness (Pelling and Holloway, 2006; Nyandiko, 2020). Most of the DRR strategies and plans in Africa seek to be aligned with the global Sendai framework as well as the continental Programme of Action (PoA) that is guiding the AU and the member states towards building disaster resilience in the continent. Given the evidence of the ongoing impact of disasters on the continent's economies, assets, people, and livelihoods, the relevance of these global and continental policy frameworks in contributing to effective risk reduction in Africa is highly contested. According to the Risk Inform Index, most countries in Africa have shown a significant increase in the risk index due to increased exposure of assets and livelihoods and partly because of the increased frequency and intensity of hazards driven by climate variability change (INFROM, 2020; AUC, 2019). Somalia, South Sudan, Central African Republic, and Congo top the list of countries in the continent with the highest risk index, with the East Africa Community (EAC) and Inter-Governmental Authority on Development (IGAD) sub-regions having the highest risk index (INFORM, 2020). There is an urgent need for these frameworks to be coherent and adaptable to the local socio-economic circumstances to fully exploit the opportunities geared towards building disaster resilience on the continent (Oxley, 2015).

However, DRR strategies and plans, or frameworks alone, are not enough to build the expected societal resilience to shocks and stresses. It is the adoption and proper implementation of these strategies that will determine their effectiveness and how well countries and communities can progress towards the Sendai Framework targets to reduce damage and losses. The losses are anticipated by reducing the number of lives lost (Target A), the number of affected people (Target B), economic losses (Target C), and damage to critical infrastructure and disruption of basic services (Target D). As mentioned earlier, insufficient resources, shortage of skilled personnel and poor governance are the critical factors that hinder implementation of DRR strategies and measures and achieve sustainable development in Africa (Pelling, 2006; Nyandiko, 2020). Achieving good governance in Africa is particularly challenging and is at the root of supporting the development of risk informed DRR strategies and measures. Leadership that is enlightened on disaster risks and information, which the DRR strategies and frameworks should strive to promote and inform good governance.

## Analytical Framework for Design and Implementation of DRR Strategies

The Sendai Framework guided the analysis of the framework for this study. Taking cognizance that a DRR framework requires strategic effort to formulate and implement, a number of critical elements are envisioned as shown in Table 1.

*Table 1: Analytical Framework*

Strategy Aspect	Issue to Examine
Understanding risk	The extent strategy is based on comprehensive understanding of risk, underlying risk factors, connectedness and impacts. To examine such things as: Existence of clear goals and targets Undertaking risk assessments Awareness creation, education, training and research to support evidence basis of the strategy Risk information and impacts
Governance	The extent there is a strong governance mechanism to facilitate the passage of DRR strategy and its full implementation such as: DRR institutions established and anchored at highest level of government DRR staffing with adequate knowledge and skills DRR platforms for coordination DRR parliamentary caucus for advocacy
Financial resources	Stable and adequate financing plan for implementing the strategy/framework: Clear budget lines for DRR available Risk transfer mechanisms Risk-informed planning and development
Technical & institutional capacities	DRR scientific expertise and skills DRR Institutional capacities Other existing capacities such as private sector and academia
Monitoring and Reporting	There is an established a mechanism to monitor implementation and progress

The paper also benefited from the review of the Bi-annual Report on the Programme of Action (PoA) for the implementation of the Sendai Framework for DRR in Africa (2015-2018).

## Materials and Methods

This study assesses the progress countries are making in developing risk-informed DRR strategies, policies, and plans and the attendant obstacles and drivers to their development and implementation in Africa. The nature of the study necessitated the use of a mixed methods approach where both qualitative and quantitative data were utilized. Data was collected through online questionnaires administered to member state focal persons during regional workshops and supplemented with interviews and documentary reviews. The questions probed and examined the relevance and scope of the policies or strategies, barriers and drivers to their design and implementation. Further, systematic review of a sample of the AU member states' DRR policies and strategies complemented the findings from the KIIs. The focus was countries that are member



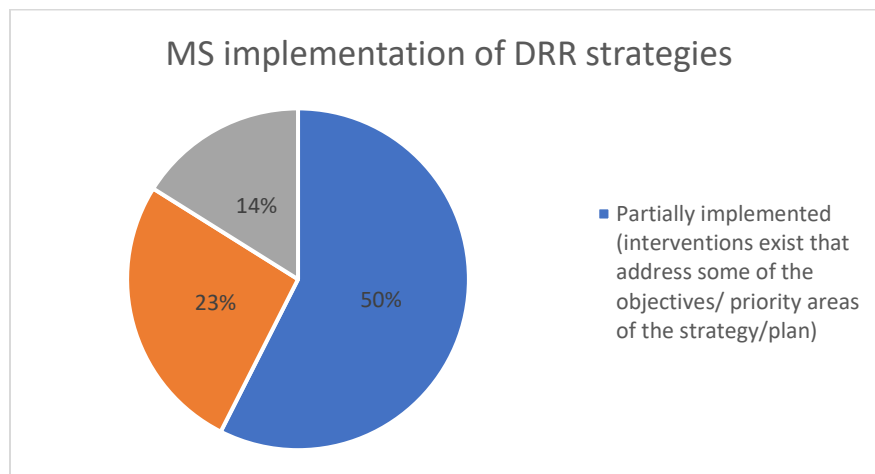
states of the AU who have committed to submitting period progress reports on the development and implementation of DRR strategies and measures in order to meet the goal of achieving Target E in the Sendai Framework. The study relied on qualitative data where it was analyzed guided by the Sendai Framework's Target E indicators that seeks to assess the extent the governments have designed and implemented DRR policies at national and sub national levels.

The study considered ethics in the study. First, permission was sought to conduct the interviews and participation of the respondents was voluntary and they had the right to decline or withdraw their participation at any point. The researcher refrained from using any form of coercion to compel participants to take part in the study and provided them with a consent form to fill in before responding to the questions.

## Results and Discussion

### Implementation Of DRR Strategies in Africa

Target E aim to ensure the substantial increase in the number of countries with national and local disaster risk reduction strategies by 2020. Most of the post-2000 policies and strategies are aligned with the Hyogo Framework for Action, with an increasing number aligned with the SFDRR. Member States (MS) reported that where policies and strategies are being revised, they are now aligned with the SFDRR and the PoA. Few countries have policies and strategies dating before the 1990s. Most of these are being revised.



*Figure 2: MS Implementation of their DRR Strategies (2019-2020)*

*Source: 22 Member States' Reporting*

The fact that more than half of the number of MS did not provide any information regarding the implementation of DRR strategies makes comparison of data with previous reporting periods difficult and has the ability of being misleading. The previous reporting period stated a low fully implementation percentage of 4.55%, a partial implementation of 77%, and 18.18% no implementation, and although the current percentages (Figure 1) does seem to have improved drastically, it would be ill advised to take it on face value, as lack of the amount of reporting from MS alters the actual percentages. Far more data would have to be provided to be able to effectively compare the reporting periods, so as to divulge any progress made in this regard.

Table 2: DRR Strategies in Place 2020

EAC	IGAD	UMA	SADC	ECOWAS	ECCAS
Burundi	Burundi	Algeria	Angola	Benin	Cameroon
DRC	Djibouti	Libya	Botswana	Burkina Faso	CAR
Kenya	Eritrea	Mauritania	Comoros	Cape Verde	Chad
Rwanda	Ethiopia	Morocco	DRC	Cote d'Ivoire	Congo
South Sudan	Kenya	Tunisia	Eswatini	Gambia	Equatorial Guinea
Tanzania	Rwanda	Sahrawi Republic	Lesotho	Ghana	Gabon
Uganda	Somalia		Madagascar	Guinea	São Tomé and Príncipe
	South Sudan		Malawi	Guinea-Bissau	
	Sudan		Mauritius	Liberia	
	Tanzania		Mozambique	Mali	
	Uganda		Namibia	Niger	
			Seychelles	Nigeria	
			South Africa	Senegal	
			Tanzania	Sierra Leone	
			Zambia	Togo	
			Zimbabwe		
Yes	No	No data	Reported progress since 2018		

Source: AUC, 2022: Biennial Report on the Implementation of the Sendai Framework in Africa

The amount of MS that did not provide any information in this regard, does make it more difficult to compare which MS did manage to develop and implement DRR strategies since 2018. An inference can be made that those that stated that they do have DRR strategies, still have said strategies in place. Somalia, Liberia, Cote d'Ivoire and Congo stated that they developed DRR strategies the first biennial report.

At sub-national level several MS reported the existence of DRR strategies and plans. Most of the local level entities with DRR strategies in place are urban centres with rural municipalities lagging behind. On average 31% of sub-national entities in Africa have DRR strategies and plans in place. This is a decrease from 38 % from the previous report. A comparison is again difficult to effectively make, as only 22 MS reported on the state hereof.

**Table 3: Reported Sub-National DRR Strategies (2019-2020)**

Country	Total number of local governments 2019-2020	Number of local governments with adopted DRR strategies 2019-2020	% of local governments with adopted strategies
Benin	77	45	58%
Burundi	1	1	100%
Congo	1		0%
Eswatini	353	124	35%
Gabon	9	0	0%
Gambia	8	0	0%
Guinea-Bissau	9	0	0%
Kenya	47		0%
Liberia	15	15	100%
Malawi	35	35	100%
Namibia	71	27	38%
Senegal	557	0	0%
Sierra Leone	22		0%
South Africa	52		0%
Tanzania	196	31	15%
Togo	117		0%
Zimbabwe	72	60	83%
Africa average (with current data)			31 %

Source: AUC, 2022: *Biennial Report on the Implementation of the Sendai Framework in Africa*

Challenges reported on by MS are the lack of implementation of the national policies at national (cross-sectoral coordination and buy-in) and sub-national level, as well as funding support for the implementation of the policies and strategies. The AUC and appropriate RECs should make concerted efforts to support the MS who does not have national policies, laws and strategies for DRR in place yet, as this could be seen as not having achieved the 2020 target. It is recommended that funding tracking streams are created for tracking the funds which are allocated to DRR policy and strategy implementation at all spheres of government and that this is reported annually.

### Achievements in National DRR Strategies and Plans

The research found that 88% (44) of the fifty-five AU member states that responded to this questionnaire reported having developed or developing at least a DRR framework. The majority of the DRR strategies (80%) were reported to be addressing the global and continental targets of reducing the number of people affected by disasters. 93% of the countries reported having an institution responsible for DRR matters, whereas 62% have DRR parliamentary caucuses (Table 2). Further analysis of a sample of DRR strategies shows that a number of the frameworks were developed before 2015 and thus assumed to be aligned to HFA and are currently being updated in line with the SFDRR requirement (Table 3). The member states also have overarching DRR legislation, action plans and other frameworks that guide the implementation of risk reduction activities, such as in Nigeria, South Africa, Gambia, Ghana, and Kenya.

*Table 4: Achievements in DRR strategies in Africa*

Aspect	Yes (%)
Does your country have a national DRR/DRM policy or legislation?	88%
Does your country have a national DRR Strategy/Plan?	65%
Does your country have legislation/policies that seek to address the global and continental DRR target to reduce disaster mortality?	79%
Does your country have legislation/policies that seek to address the global and continental DRR target to reduce the number of people affected by disasters?	80%
Does your country have legislation/policies that seek to address the global and continental DRR target to incorporate DRR in the country's educational systems at all levels?	74%
Does your country have legislation/policies that seek to address the global and continental DRR target to reduce economic loss due to disasters?	65%
Does your country have legislation/policies that seek to address the global and continental DRR target to increase funding for DRR?	71%
Is there a government institution/s responsible for Disaster Risk Reduction/Disaster Risk management?	93%
Does your country have a national DRR/DRM Platform?	81%
Does your country have a parliamentary subcommittee dealing with DRR issues?	62%

*Source: Member States Reporting to the Questionnaire*

Further analysis of 17 DRR strategies and plans from the member states indicates that five were adopted before 2015 and therefore can be assumed to be aligned with the Hyogo Framework for Action (HFA). Thus, it can be assumed that six out of 15 policy frameworks sampled from Africa (Djibouti, Gambia, Ethiopia, Rwanda, and Uganda) are yet to be aligned to the Sendai Framework since they were developed before 2015 (Table 3). Ten policy frameworks (about 65%) have or are being developed after the adoption of the Sendai Framework, so it would be assumed they are aligned, though some are at the drafting stage (Ghana, Sudan, South Sudan, Somalia, and Tanzania are at the drafting stage). The major outstanding feature of these policies or strategies, if they are correctly aligned to the Sendai Framework compared to their predecessor, the Hyogo Framework for Action, is the extent to which they seek to reduce existing risk, prevent new risk, manage residual risk, and build-back-better in response and recovery (UNDRR, 2015). Generally, this research demonstrates that good progress is being made by AU member states towards developing policy frameworks as required by the Sendai Framework but is sluggish in a number of countries.

Table 5: The DRR Frameworks and Institutional Arrangements in Africa

Country	Name of the policy/strategy plan	Status of the policy	Year of adoption/version	Implementing institution	Type of the framework
Burundi	National Disaster Risk Management Policy	Adopted	2018	Ministry of Security and Disaster Management	Policy
Djibouti	National Strategy for Risk and Disaster Management (2005)	Adopted	2005	Not determined	Strategy
Gambia	National Disaster Management Policy	Adopted	2005	National Disaster Management Agency (NDMA)	Policy
Ethiopia	Disaster Risk Management Policy-Ethiopia	Adopted	2013	National Disaster Management Commission (NDMC)	Policy
Ghana	Draft National Policy on Disaster Risk Reduction	Draft	2019	National Disaster Management Organization (NDMO) in Ministry of Interior	Policy
Kenya	National Disaster Risk Management Policy for Kenya	Adopted	2017	National Disaster Operation Centre (NDOC) in Ministry of Interior	Policy
Madagascar	Stratégie Nationale de Gestion des Risques et des Catastrophes (2016) (2016-2030)	Adopted	2016	The National Council for Risk and Disaster Management (CNGRC)	Strategy
Malawi	National Resilience Strategy	Adopted	2018	Department of Disaster Management Affairs	Strategy
Nigeria	National Policy on Disaster Risk Management Policy	Draft	Draft (2018)	National Emergency Management Agency (NEMA)	Policy
Rwanda	National Disaster Management Policy	Adopted	2012	Ministry of Disaster Management	Policy
Sudan	Draft National Disaster Risk Management Policy (2018)	Draft	Draft (2018)	Humanitarian Aid Commission (HAC)	Policy
South Africa	National Disaster Management Act	Adopted	2005	National Disaster Management Centre	Legislation

South Sudan	National Strategy for Disaster Risk Management in South Sudan	Draft	Draft (2019)	The Ministry of Humanitarian Affairs and Disaster Management	Policy
Somalia	Draft National Disaster Management policy	Draft	Draft (2017)	The Ministry of Humanitarian Assistance and Disaster Management (MoHADM)	Policy
Tanzania	National DRR Strategy	Draft	Draft (2018)	Disaster Management Department in the Office of the Prime Minister	Strategy
Uganda	National Policy for Disaster Preparedness and Management	Adopted	2010	Department for Disaster Preparedness and Response	Policy

Source: AUC, 2022: *Biennial Report on the Implementation of the Sendai Framework in Africa*

DRR strategies and plans are critical tools for shaping comprehensive risk management through stand-alone or through sectorial DRR frameworks. Sectorial plans or strategies such as land use, infrastructure, health, agriculture and environmental among many others, for example, can also play a significant role to reduce risks in the sectors. Regulating land use by adopting good building codes, for example, through government sectors responsible for urban and land use planning have shown capacity to reduce disaster risk that governments need to make. They can address many disaster risks such as seismic risk or underlying disaster risks because of rapid urbanization and construction of buildings that does not meet safety standards in the continent (Kioko, 2014).

Interviewees reported and in congruence with Kioko (2014) that a number of non-approved buildings such as housing and public infrastructure projects have shown to pose the risk of collapse due to a variety of reasons. The factors responsible for the poor state of the construction industry in Africa include faulty design, use of poor concrete mix ratio, limited planking and strutting, too wide column spacing cost cutting by constructors and changing recommended concrete mix ratio among other reasons. Countries in the continent, for instance, can enhance resilience of the build environment by strengthening the capacity of the responsible sector to regulate and enforce the building codes and land use plans in urban areas, train artisans involved in the construction of buildings and ensure there is compliance with the required construction standards (Kioko, 2014). In agriculture sector, adopting new technologies and crop varieties that are resilient to climate variability and change and drought can contribute to enhancing food security and resilience to sustainable development in Africa's dry lands (Omoyo *et al.*, 2015). This observation raises serious concern on the extent sectorial strategies and plans are appropriately designed and implemented to complement the existing standalone DRR strategies and frameworks in the continent to support effective disaster risk reduction efforts.

In-depth analysis of the national DRR frameworks indicates most lack important elements as required by Target E of the Sendai Framework. Target E has ten elements for the two indicators of developing DRR strategies that aim to measure improvements in the existence and quality of actionable public policy on national and local disaster risk reduction strategies or legislation. The DRR strategies, among other elements, should have well-defined goals and objectives across different timescales with concrete targets, indicators and clear reporting arrangements. The policy frameworks for Djibouti, Kenya, Uganda, Ethiopia, and Gambia, for example, lack indicators, timeframes, and reporting arrangements. Disaster risk management corrective measures are not elucidated while the activities are inclined toward disaster response. According to the majority of DRR focal point interviewees, resources for risk prevention and management are not earmarked but only for response in national budgets, and in most cases, they are diverted to other sectors with a higher political profile than DRR (Pelling and Garschagen, 2019). This raises concern about the level of risk awareness among political and decision-makers in Africa despite showing commitment to the adoption of the Sendai Framework and the PoA.

Moreover, in line with the Sendai Framework, some of these strategies do not have a clear mechanism for monitoring and reporting, and there is no mention of measures for corrective risk management in the various sectors (UNISDR, 2017a). This would hamper proper monitoring of the progress the countries are making toward achieving the Sendai Framework goals, outcomes, and targets. The framework documents do not recognize the sectors that are risk sensitive and vulnerable to losses, such as infrastructure, livestock, agriculture, water and housing, so preventive risk reduction measures are designed. This is a clear lack of attention to priorities 2 and 3 of the Sendai framework and can be attributed to a limited understanding of

the evolving concept of disaster risk in Africa (Wamsler & Johannessen, 2019). This was also highlighted by the respondents and emerged from the analysis of the literature. Overall, there are notable weaknesses in drafting these strategies as required by Target E, with insufficient inclusion of the basic elements for comprehensive implementation of the risk reduction measures essential for laying the foundation for protecting citizens and economies from the impact of disasters, particularly in fragile contexts (Peters, 2018).

### Local DRR Strategies and Plans

The Sendai Framework requires countries to develop and implement DRR strategies and plans to support local level risk reduction measures. Interviews with respondents and analysis of literature highlight the importance of localizing DRR strategies and plans. Local DRR strategies and plans are essential to shape activities and measures that aim at reducing exposure and vulnerability to hazards in local communities where they are most felt and hence action is most needed. Moreover, the tools and approaches to reduce exposure and risk to these hazards are local and require local actors and communities to engage in order to design and implement effective DRR measures (UNDRR, 2019C).

This research shows that, on average, 38% of AU member states have developed sub-national policies and strategies. Ghana, Mali, and South Africa reported the most substantial progress, with all the sub-national entities indicating they have developed the required DRR policies and strategies. The other member states reporting good progress are Benin (58%), Malawi (88%), Niger (88%), Sierra Leone (63%) and Zimbabwe (85%). The findings show that Burkina Faso, Chad, Equatorial Guinea, and Tunisia have less than 10% of their sub-national authorities with DRR policies/strategies. Closer examination of the sub-national policies and strategies of Kenya, Uganda, and Gambia shows similarities with the national DRR strategies on many fronts, such as the lack of indicators, timeframes, and mechanisms for preventing the creation of new risk and reducing existing risk. Generally, the research finds this performance and progress through developing risk informed local DRR strategies below average, thereby calling into question the commitment by African political leaders and decision makers to reducing disaster risk (Kellett *et al.*, 2014). This is contrary to the continent's perceived obligation to the DRR agenda when they endorsed the Sendai Framework in 2015 and the subsequent adoption of the Programme of Action by AU member states for its implementation in Africa. This finding further demonstrates the limited understanding of the concept of disaster risk in these instruments, and the majority are poorly aligned to the Sendai Framework.

This research concurs with Tiepolo and Braccio (2020), who revealed that most local-level DRR strategies and plans tend to overlook a number of actions. Prominent gaps found in these strategies are the lack of actions to deal with small-scale disasters in the community, the avoidance of risk transfer mechanisms, the absence of actions to address fires and the lack of initiatives to manage road traffic accidents and crashes. The other missing actions in the strategies are coastal flooding because of sea level rise, urban flooding, collapse of buildings, absence of crop and livestock insurance, windstorms and dust storms, among others. It is important to note that sub-national strategies are essential instruments for addressing such localized, small-scale but frequent disaster risks as they accumulate over time under the influence of hazard exposure and vulnerability and are driven by the socio-economic characteristics of the local area. Conducting a comprehensive hazard and risk profile of the local area should be the starting point for a better understanding and development of the local DRR strategies and plans (UNDRR, 2019c). Policy frameworks should be designed and implemented in collaboration with stakeholders from the government, private



sector, civil society organizations, and vulnerable people in the community, as this is critical in reducing the vulnerability of people, assets, and livelihoods to the devastating impact of hazards (UNDRR, 2019).

This calls for countries in Africa to accelerate the design and implementation of local DRR strategies given that disaster risks are local phenomena, and their impacts are often most intensely felt in local areas where governments and citizens can best engage to address them (UNDRR, 2019c).

### Challenges To Design and Implementation of DRR Strategies and Plans

Analysis of the frameworks revealed that the majority have elaborated mechanisms for resource mobilization to fund DRR interventions. Most of the models for mobilizing funds advocated in the DRR frameworks fall into three main categories: (a) risk retention modalities where the ministry responsible for finance or treasury allocates a standalone budget for the implementation of DRR activities, such as the case in Malawi, Uganda, Ghana, and Ethiopia. (b) contingent budget, in which a dedicated budget line is set aside for disaster or emergency response; and (c) risk transfer mechanism, in which the ministry responsible for finance, in collaboration with the private sector or the African Union Risk Capacity, has an insurance scheme in place to protect assets and livelihoods such as crops and livestock in the event of a disaster (Kellett *et al.*, 2014). Interviews with DRR focal persons cited the inadequacy and unpredictability of the funds from the government as a serious impediment to effective implementation of DRR interventions. Interviewees indicated that most funds are small, unpredictable, inclined toward disaster response, disbursed late and rarely reach the local communities where the impact of disasters is felt.

The little resources dedicated to DRR are evidence of the low priority accorded to DRR by decision makers and a limited understanding of disaster risk on the continent (Nyandiko, 2020). In some countries where the DRR strategies show some level of inclusivity, such as South Africa, Kenya, Nigeria, and Rwanda, poor governance and inadequate institutional capacities are persistently hampering implementation of these strategies, thereby making them inactionable (van Niekerk, 2020; van Niekerk, 2015). This is a contradiction to the commitment by DRR policy and decision makers at the continental level through declarations such as the Tunis Declaration, which was endorsed by the AU Heads of States and Governments to accelerate the implementation of DRR in a coherent and integrated manner in Africa (AU, 2018). Consequently, this results in poorly tailored strategies, policies, and plans with limited impact on reducing disaster vulnerabilities and risks (Twigg, 2015). This finding suggests that it is not the number of DRR instruments that are important on the continent but the extent to which these strategies are enabled with adequate resources from national governments and stakeholders to support their implementation.

The extent to which local disaster risk reduction strategies and plans are mainstreamed into local level planning, as well as the level of genuine public engagement in designing and implementing DRR measures, are critical in reducing disaster risks and building societal resilience. In addition, interviews with KIIs and analysis of frameworks and literature from AU member states reveal that inadequate decentralization and localization of the DRR agenda is a challenge impeding risk reduction implementation on the continent. The majority of respondents indicated that inadequate local community capacity, a lack of understanding of disaster risks, and illiteracy are impeding DRR implementation in Africa. They stressed that local communities can engage in local DRR if they know the benefits of the outcome, i.e., by understanding that they are at risk from disasters and they play a role in preventing disasters from occurring in the local community (UNDRR, 2019).

This result implies that increasing awareness and knowledge on DRR to local communities and local decision makers has significant influence to accelerate the adoption of DRR in communities. Interviewees and analysis of the instruments were congruent that funding for DRR is skewed to national level in many countries in the continent such as in Uganda, Malawi, Kenya and South Africa, to name but just a few, with funds earmarked for DRR frequently diverted to other interventions that have higher political profile. They suggested DRR finance to be mainstreamed and integrated across all local sectors such as planning, fiancé, agriculture, water, energy, infrastructure, health and education to ensure sustainable and stable access to adequate funds to prevent creation of new risk and reduce existing risk in the sectors. Another critical challenge is limited provision for horizontal linkages with other local governments and communities to address trans-boundary risks by harmonizing the approach to DRR within diverse local political or administrative boundaries or units (UNDRR, 2019). Despite a number of countries indicating some progress in developing the local DRR strategies and plans, these interlinked challenges suggest that plans or strategies on their own are insufficient to address disaster risks at community level.

## Conclusions and Recommendations

The study has noted that there is systematic commitment by most member states in the development of DRR policies and strategies to support the implementation of risk-informed planning. DRR policies, legal frameworks, national DRR platforms to support coordination as well as dedicated institutions for DRR are in place in most of the member states. However, some countries have yet to develop and align their DRR strategies to the SFDRR, one year after the deadline for developing these national and DRR strategies. However, the research has shown that simply measuring the number of national and sub-national DRR strategies is not enough; it is critical to ensure these instruments incorporate the ten elements and should be appropriately aligned to the global and regional frameworks as envisaged in the Sendai Framework. Governments in Africa and their partners should pay immediate attention to developing risk-informed policies and strategies and providing the necessary institutional and technical capacities for their implementation in the next ten years.

Inadequate budgetary allocation was found to be the most significant challenge impeding the development and implementation of DRR policies and strategies by governments in Africa. Research has found that the resources are inadequate, inclined toward disaster response, concentrated at a national level and prone to diversion to other sectors that have a higher political profile. Limited technical personnel to run the various sections of the national disaster offices, weak institutional capacities, limited integration into sectors and low political economy of the DRR agenda at national and local levels are serious bottlenecks affecting their implementation. In some countries, the DRR strategies and policies lack a legal framework to back up and reinforce legally the implementation of the DRR policies. The other challenges that need to be addressed include weak synergy between DRR and sectors/planning frameworks such as infrastructure, climate change, and health sectors; poor understanding of DRR among the stakeholders; and slow implementation of the DRR strategies and policies. It is recommended that stakeholders from development partners, NGOs, and the UN system should support governments in Africa to invest adequate resources to accelerate the design and implementation of DRR strategies to achieve sustainable development in the continent. Furthermore, there is an urgent need to strengthen DRR monitoring and reporting systems in the member states to bolster and contribute to the transformation of the national disaster offices to be more efficient and competent in designing and implementing risk-informed strategies and plans.

## Declaration of Competing Interest

The authors declare that there are no known competing interests or relationships that would have appeared to influence the production of this work.

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