Anticipatory Governance in SADC: Reducing Disaster Risk After COVID-19

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African perspectives
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Abstract

Humans exist in complex adaptive socio-ecologically linked systems that interact, learn, react, change and adapt. Disaster risk reduction (DRR) functions within these systems in SADC and its member states. However, DRR cannot be viewed as the responsibility of one government entity or one regional sector. The multi-sectoral, multi-scalar and multi-disciplinary nature of DRR makes it ideal to embrace the tenets of anticipatory governance. Anticipatory governance is the ability to harness the collective intelligence and wisdom of collaborating organisations and citizens, to deal with strategic risks and leverage emerging opportunities in order to meet development goals. Anticipatory governance has five important elements: foresight-, networked- and feedback systems, open-minded institutional culture, and the presence of *Auftragstaktik*. This paper builds on the lessons learnt in the COVID-19 response in the region as well as recent research conducted in the field of disaster risk governance. It assesses anticipatory governance and how it can be fostered and build resilience in SADC post-COVID-19.

Introduction

Humans function and exist in complex adaptive socio-ecologically linked systems[1] constituting various components or parts that interact with each other and with the system as a whole. These parts interact, learn, react, change and adapt.[2] However, in most instances, the sum of the parts does not necessarily constitute the whole of the system. Fundamental to the survival of systems is not only their relevance, but also their ability to pre-empt and anticipate change. Such systems need not only apply foresight systematically but also embrace complexity.[3] These legacy systems were developed before the concept of complexity was discovered, and many are still in operation/use today. Our decision-making to effect change (be it political, sociocultural, economic, environmental or legal) functions within and through political systems. These systems dictate who has the power, how it is exercised, and even how the systems themselves behave and function. A key assumption is the inherent desire for a political system to remain within its set boundaries (for example, a democratic government, form of state or economic ideology). However, anticipatory governance is not constrained by these arbitrary confines. Systems thinking[4] forms the

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1   David Byrne, *Complexity Theory and the Social Sciences* (London: Routledge, 2020); Christo Coetzee, Dewald van Niekerk and Emmanuel Raju, "Disaster resilience and complex adaptive systems theory," *Disaster Prevention and Management* 25, no. 2 (2016): 196–211.

2   David Sanderson and Anshu Sharma, *World Disasters Report* (Geneva: IFRC, 2016).

3   Jose Ramos, "Anticipatory Governance: Traditions and Trajectories for Strategic Design," *Journal of Future Studies* 1, no. 19 (2014): 35–52.

4   Systems thinking introduced the notion that some phenomena are probabilistic (not deterministic) and subject to chance variation. This approach therefore considers how the various parts of a system interact, interrelate and work with other systems over time. It considers feedback loops into a system that assist it to head queues and change.

bedrock of complex adaptive systems theory.[5] Examining the presence of anticipatory governance within disaster risk reduction (DRR) in SADC and the member state (MS) system(s), this paper builds on the learnings from the region's COVID-19 response as well as recent research conducted in the field of disaster risk governance. Providing a post-COVID-19 assessment of how anticipatory governance needs to be fostered and built, the paper argues for a holistic, cross-sectoral approach to DRR with anticipatory governance as its foundation.

Anticipatory governance

The many meanings of anticipatory governance include:

- The ability of a system to use a certain set of data to determine possible future scenarios, or shape and implement a future vision based on forecasts and knowledge.

- The incorporation of participatory measures for goal setting and ensuring feedback loops for monitoring and evaluation.

- The swift exploitation of links (compared to conventional government structures) between role-players to benefit many.

- The dismantling of bureaucratic hierarchies and devolution of powers.[6]

- A system of systems, guided by rules and norms that enable foresight, networks and feedback to reduce risk and increase capacity to respond to events at earlier rather than later stages of development.[7]

It can further be said that anticipatory governance:[8]

> allows a region, whether city or state, to harness the collective intelligence and wisdom of collaborating organizations and citizens, to deal with strategic risks and leverage emerging opportunities for meeting development goals. It is an approach for 'social navigation' — the ability for a society to navigate the complex terrain of social change.

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5   Representing a shift from traditional systems thinking, complex adaptive systems theory considers a system as more than the sum of its parts. Systems are therefore not easy to understand, and their behaviour is not easy to predict. Constant change leads to complexity within systems, and complex systems are harder to break down to their constituent parts. Complex adaptive systems theory acknowledges dynamic interactions between various components, temporal and contextual influences, and feedback loops that help foster adaptation and self-organisation within a system.

6   Roberto Poli, *Working with the Future: Ideas and Tools to Govern Uncertainty* (Milano: BUP, 2019).

7   Leon Fuerth, "Foresight and Anticipatory Governance," *Foresight* 11, no. 4 (2009): 14–32; Jose Ramos, Ida Uusikyla and Nguyen Tuan Luong, *Anticipatory Governance – A Primer* (Vietnam: UNDP, 2020). https://www.vn.undp.org/content/vietnam/en/home/blog/AnticipatoryGovernance.html.

8   Ramos, "*Anticipatory Governance - A Primer.*"

Anticipatory governance has four basic components:[9]

- A foresight system, which enables to identify the landscape of change and use this in organisationally useful ways.

- A networked system for integrating foresight and the policy process, which will ensure systematic thinking and inter-organisational cooperation to address 'wicked' problems, which are challenging to address, and complex interdependencies.

- A feedback system to gauge performance and also to manage 'institutional' knowledge', which allows for reflection, adaptation and change.

- An open-minded institutional culture, which promotes a cultural and institutional shift towards experimentation leading to learning which can be scaled for impact.

> The region must strive towards open-mindedness. Addressing both politics and practicalities will allow for learning and change

A fifth dimension has been added – *Auftragstaktik*, a German military institutional cultural process of decision-making that is based on leadership, trust, training, skills and competence.[10] According to *Auftragstaktik*, all-encompassing foresight and ultimate decision-making does not rest in one person at the top of a hierarchy. Rather, dynamic changes in the field necessitate lower order managers (officers in this case) to correctly interpret strategic intent and ensure action(s) to the best of their abilities and resources, without fear of repercussion. Allowing for quick decision-making and implementation, *Auftragstaktik* does not need perfect information and does not tolerate lack of decision-making. A subordinate is therefore justified to interpret strategic intent and modify or even change a given task completely as long as their actions serve the intent of the 'commander'. *Auftragstaktik* therefore does not care much for personalities but recognises that decisions are made in complex linked environments. Anticipatory governance functions within complexity, which does not bode well for bureaucratically insular institutions such as governments and regional organisations.

The region must strive towards open-mindedness. Addressing both politics and practicalities will allow for learning and change. Effective decision-making should be enhanced towards the possibility of *Auftragstaktik*.

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9   Fuerth, "Foresight and Anticipatory Governance."
10   Poli, *Working with the Future*.

Societies and governments face complex and 'wicked' challenges[11] including climate change, disruptive new technologies, emerging diseases, social pathologies and disaster risks.[12] In most instances, a number of approaches towards problem-solving is needed, such as:

- Reducing surprises by proactively identifying weak signals and disruptors before they become problems, thus seeing the bigger picture;

- Crossing horizontal institutional barriers through agency learning and collaboration;

- Enabling various avenues of citizen/stakeholder engagement, and fostering partnerships to explore and shape the future;

- Developing relevant innovations fit strategically into a changing future environment;

- Prioritising investment areas in research, education, industry development, markets, science and technology changes;

- Systemically understanding wicked problems in order to intervene with nuance and focus;

- Enhancing capacity to adapt quickly to changing conditions, by using experiments that can be scaled for impact;

- Mobilising an ecosystem to tackle systemic challenges through collaborative action; and

- Bringing together resources that enhance all when shared.

> A systemic understanding of 'wicked' problems must be inculcated by identifying them and finding solutions within development and resilience thinking and processes

A systemic understanding of 'wicked' problems must be inculcated by identifying them and finding solutions within development and resilience thinking and processes.

Constantly evolving as it focusses on, studies and solves 'wicked' problems, DRR is by nature multi-disciplinary, -scalar and -sectoral. Disasters are not the primary area of study in DRR as they are not natural but extraordinarily hazardous events. Humans are not able to cope

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11   Difficult or impossible to solve, wicked problems have an impact on many different role-players, primarily because they are connected with and dependent on other elements in a complex system. They are often socially constructed and locally dependent. For example, Africa is widely seen as one of the most resource-rich continents, yet millions of people on the continent live in poverty and inequality, largely due to internationally created political, economic and social systems. Therefore, the same international systems favour other countries that grow rich due to their comparative advantage within these systems.
12   Ramos, Uusikyla and Luong, *Anticipatory Governance – A Primer*.

with the magnitude of their consequences. Disasters are the outcome of poor development choices, marginalisation, inequality, exposure, vulnerability and lack of coping capacities. Disaster risk is understanding the interaction of vulnerable and exposed conditions within hazardous circumstances. Not all hazards (natural or human-made) have the same kind of impact on society. Various levels and types of vulnerability are affected differently depending on the nature, extent or impact of a hazard. Disaster risk is a socially constructed phenomenon. In order to reduce the risk of disaster, therefore, one needs to understand the underlying challenges feeding vulnerability and eroding the gains of development. It needs to be understood that a hazard can exploit vulnerability to the extent that those affected cannot deal with the situation by only applying their own resources. DRR is therefore not a spontaneous activity that occurs in government structures but a concerted effort to understand the hazard landscape and implement governance measures to ensure that disaster risks are adequately addressed and managed.

To this end, regional economic communities (RECs) and their MSs have implemented legal and statutory instruments to create governance structures for DRR. These instruments vary in terms of their hierarchy in government and their application of DRR principles. Anticipatory governance can be enhanced in the SADC region. The first step is to understand the pre-COVID-19 landscape and consider the lessons learnt from this global pandemic.

Existing national and regional policies already make provision for achieving development and disaster risk reduction objectives. Political will must prevail to financially support, implement, monitor and adapt these policies where needed in line with the RSIDP.

Disaster risk reduction in SADC before COVID-19

International policy events and the impacts of natural hazards and disasters have reflected the long and rich history of DRR in SADC.[13] Aligned with the overall SADC strategic vision of fostering regional integration, 'disaster management' has always been high on the SADC MS agenda. Yet within the SADC Secretariat, however, this was not always so. In the late 1990s and early 2000s, the focus was on response and recovery;[14] DRR never received the same policy attention within the SADC Secretariat as it did in other RECs such as the Intergovernmental Authority on Development in East Africa, and the Economic Community of West African States. In the period immediately after 2000, the function of 'disaster

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13   Livhuwani Nemakonde and Dewald van Niekerk, "A Normative Model for Integrating Organisations for Disaster Risk Reduction and Climate Change Adaptation within SADC Member States," *Disaster Prevention and Management: An International Journal* 26, no. 3 (2017): 361–76.
14   Southern African Development Community, *SADC Multi-sectoral Disaster Risk Management Strategy* (Gaborone: SADC, 2001)

management' did not enjoy the needed institutional and policy priority.[15] The SADC Disaster Risk Reduction Unit was only formally established (within the Organ on Politics, Defence and Security Affairs) in 2008 and became operational in 2009. However, for a good number of years, DRR implementation in the Secretariat remained underfunded and severely understaffed. To aid in its daily operations and ensure more clout in terms of policy, the Unit was relocated in 2017 to the Office of Executive Secretary, under the auspices of the Deputy Executive Secretary for Regional Integration. After 2010, DRR began to gain traction within the Secretariat, mostly because of the appointment of competent staff and interest in DRR support from international development partners. International documents such as the Hyogo Framework for Action 2005–2015 and its successor, the Sendai Framework for Disaster Risk Reduction 2015–2030, played a part. Following a 2013 agreement between the European Union and the African, Caribbean and Pacific Group of States, a €60 million programme was launched in 2015 to implement African DRR and disaster risk management (DRM) frameworks. Funded by this programme, a number of continental and regional initiatives aim to enhance disaster risk governance.

A resilience fund (as per the SADC Regional Resilience Framework 2020–2030) should urgently be set up, not as a contingency measure or response, but to foster system-wide links and build resilience across the region.

The programme has four pillars and a number of supporting projects.

It is clear from the projects that the SADC DRR Unit is currently in the building phase, putting measures in place to address the needs of MSs, which are directly related to the disaster risk profile of the region.
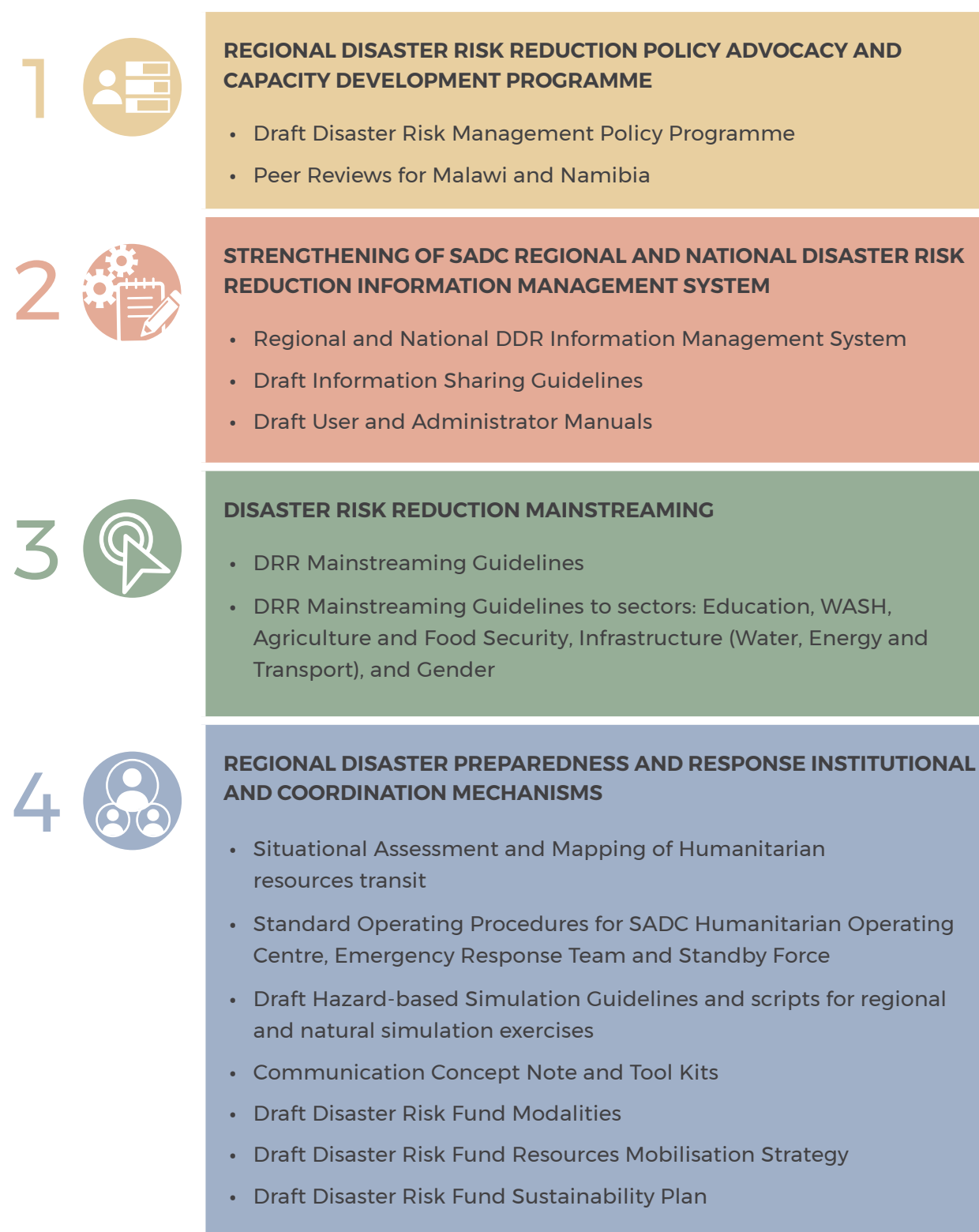
SADC disaster risk profile

Within SADC, the disaster risk level is quite closely related to the development tract of the specific countries and the region. Phenomena such as floods, cyclones, earthquakes, tsunamis, droughts, wildfires, pest plagues, and air and water pollution cause extensive losses to livelihoods and property, and claim many lives. These hazards instil systemic disaster risks that need whole-systems approaches. The impacts are exacerbated by a number of factors including high population growth rates, food insecurity, high levels of poverty, inappropriate use of natural resources, degradation of the environment, poor and unsustainable development, uncontrolled urbanisation, low adaptive capacities, and the failure of policy and institutional frameworks among others. All of these factors contribute to high vulnerability to disasters.[16]

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15   Mmaphaka Tau, "An Institutional Model for Collaborative Disaster Risk Management in the Southern African Development Community" (PhD diss., North-West University, 2014); Livhuwani Nemakonde, "Integrating Parallel Structures for Disaster Risk Reduction and Climate Change Adaptation in the Southern African Development Community" (PhD diss., North-West University, 2016).

16   ICSU Regional Office for Africa, *Africa Science Plan for Natural and Human-induced Hazards and Disasters* (Pretoria: ICSU Regional Office for Africa Pretoria, 2017).

Figure 1   Selected SADC disaster risk management projects

1   **REGIONAL DISASTER RISK REDUCTION POLICY ADVOCACY AND CAPACITY DEVELOPMENT PROGRAMME**

- Draft Disaster Risk Management Policy Programme
- Peer Reviews for Malawi and Namibia

2   **STRENGTHENING OF SADC REGIONAL AND NATIONAL DISASTER RISK REDUCTION INFORMATION MANAGEMENT SYSTEM**

- Regional and National DDR Information Management System
- Draft Information Sharing Guidelines
- Draft User and Administrator Manuals

3   **DISASTER RISK REDUCTION MAINSTREAMING**

- DRR Mainstreaming Guidelines
- DRR Mainstreaming Guidelines to sectors: Education, WASH, Agriculture and Food Security, Infrastructure (Water, Energy and Transport), and Gender

4   **REGIONAL DISASTER PREPAREDNESS AND RESPONSE INSTITUTIONAL AND COORDINATION MECHANISMS**

- Situational Assessment and Mapping of Humanitarian resources transit
- Standard Operating Procedures for SADC Humanitarian Operating Centre, Emergency Response Team and Standby Force
- Draft Hazard-based Simulation Guidelines and scripts for regional and natural simulation exercises
- Communication Concept Note and Tool Kits
- Draft Disaster Risk Fund Modalities
- Draft Disaster Risk Fund Resources Mobilisation Strategy
- Draft Disaster Risk Fund Sustainability Plan

Source: SADC DRR Unit

A number of disasters – including annual floods from 2004 to 2019, extreme drought (1991–1992; 1994–1995; 2001–2003; 2015–2016; 2018–2019) and other climate-induced disasters, such as cyclones (frequently from 2000–2019) – has had devastating impacts particularly on the Indian Ocean island states and east coast countries.[17] In 2000, Cyclone Eline caused floods affecting Botswana, Mozambique and Zimbabwe, which required an extraordinary regional response. Cyclone Dineo affected a number of countries including Botswana, Mozambique, South Africa, and Zimbabwe in 2017. In 2019, Cyclone Idai and Cyclone Kenneth affected the Comoros, Malawi, Mozambique, South Africa and Zimbabwe. Biological and health hazards claim a significant number of lives on an annual basis, with malaria being one of the biggest killers, although cases are on the decline.[18] There is a noticeable increase in anthropogenic hazards, mostly because of current development in the region, as well as increased urbanisation and its associated pressures on medium to big cities. To move forward in terms of DRR, there needs to be a holistic understanding of the disaster risks, vulnerabilities and hazards. This understanding can be reached through a multi-scale approach. Assessing various levels of disaster risk will enable in-depth analysis and enrich understanding. To achieve this understanding, the playing field of analysis needs to be levelled as much as possible. For the purpose of this paper, this levelling is done according to the Index for Risk Management (INFORM).

Providing a baseline for understanding disaster risk within various MSs, INFORM is a composite indicator that identifies countries at risk of the kind of humanitarian crisis and disaster that would overwhelm national response capacity. Based on concepts widely discussed in scientific literature, the INFORM model envisages three dimensions of risk:

- hazards and exposure;

- vulnerability; and

- lack of coping capacity.

Thus, the higher the value out of 10, the more at risk the MS in terms of the possible impact hazards might have, its vulnerability or its lack of capacity. For illustrative purposes, the 2015–2018 period is used (map of 2019 figures is also displayed).

The overall risk of the SADC region, in general, has increased from 2015 to 2018. This can largely be ascribed to a number of natural disasters such as the protracted drought, frequent cyclones and El Niño. Social, political and economic factors within MSs also heighten vulnerability, adding to the risk; the most significant increase appears to be within the Democratic Republic of Congo (DRC), and the greatest risk reduction in Malawi.

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17   Jennifer Fitchett and Stefan Grab, "A 66-Year Tropical Cyclone Record for South-east Africa: Temporal Trends in a Global Context," *International Journal of Climatology* 34, no.13 (2014): 3604–3615.

18   World Health Organization, *World Malaria Report 2017* (Geneva: WHO, 2017).

Table 1   SADC Index For Risk Management (2015–2018)

| COUNTRY	2015	2016	2017	2018
Angola	4.8	4.2	4.9	5.2
Botswana	4.8	3.0	2.9	3.0
Comoros	3.7	2.6	3.7	3.6
DRC	3.9	7.2	7.0	7.1
Lesotho	2.9	3.9	4.2	4.5
Madagascar	3.4	4.9	5.0	5.0
Malawi	7.0	4.3	4.8	4.4
Mauritius	3.8	3.1	2.1	3.6
Mozambique	4.1	5.8	6.0	6.0
Namibia	2.9	3.6	3.7	3.6
Seychelles	5.7	2.3	2.2	2.1
South Africa	2.8	3.8	4.3	4.3
Swaziland	4.2	3.1	3.4	3.9
Tanzania	5.3	4.7	5.7	5.6
Zambia	4.1	4.1	4.1	4.1
Zimbabwe	5.1	4.3	4.9	5.1
SADC (avg)	4.3	4.1	4.3	4.4
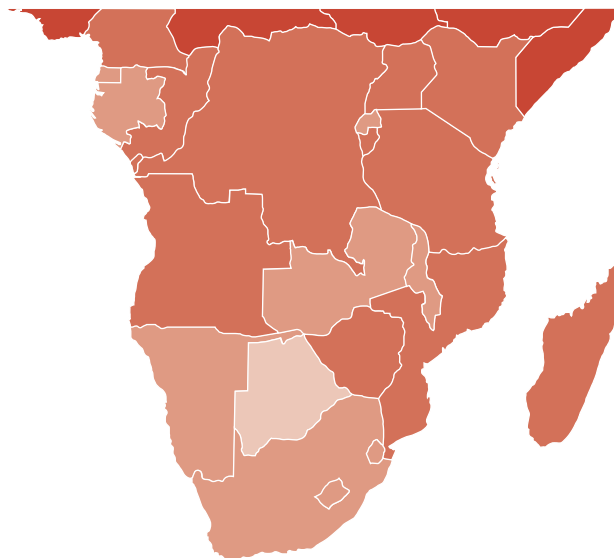
Note: higher scores indicate greater risk

Source: Africa Union Commission, *Biennial Report on the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa* (Addis Ababa: AUC, 2020).

Table 2   SADC Hazards and Exposure Index (2015–2018)

| COUNTRY	2015	2016	2017	2018
Angola	3.5	3.5	3.9	4.3
Botswana	1.4	1.4	1.5	1.6
Comoros	1.0	1.0	1.7	1.6
DRC	5.4	5.4	6.2	6.2
Lesotho	1.5	1.5	2.2	2.6
Madagascar	3.6	3.6	4.0	3.9
Malawi	1.9	1.9	2.7	2.4
Mauritius	3.4	3.4	1.9	3.3
Mozambique	4.4	4.4	5.3	5.2
Namibia	1.9	1.9	2.4	2.3
Seychelles	1.6	1.6	1.3	1.3
South Africa	4.3	4.3	4.5	5.0
Swaziland	2.1	2.1	1.9	2.2
Tanzania	4.0	4.0	5.0	4.8
Zambia	2.0	2.0	2.1	2.3
Zimbabwe	3.4	3.4	4.4	4.7
SADC (avg)	2.8	2.8	3.2	3.4
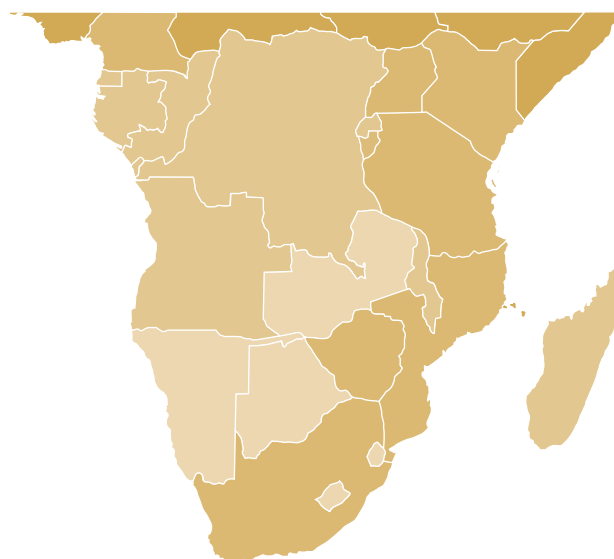
Note: higher scores indicate greater risk

Source: Africa Union Commission, *Biennial Report on the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa* (Addis Ababa: AUC, 2020).

The frequency of many hazards has increased over the past decade and, therefore, so has the exposure of MSs. The eastern and central regions of SADC experienced a significant increase in hazards. Ninety-three different disasters were recorded in the region during 2019 alone. Floods, epidemics, drought and storms had the highest frequency. Out of all the disasters, drought seemed to have had the greatest impact on people and wreaked the most damage. Individual MSs have reported an increase in their hazard and exposure profile, which means that they experience more hazards, the hazards are also becoming more intense, and that more people and infrastructure are exposed to possible harm and damage.[19]

Table 3   SADC Vulnerability Index (2015–2018)

COUNTRY	2015	2016	2017	2018
Angola	4.7	4.7	4.4	4.6
Botswana	4.0	3.7	3.5	3.5
Comoros	4.9	5.5	4.4	4.5
DRC	4.0	7.6	7.0	7.3
Lesotho	3.7	5.4	5.2	5.4
Madagascar	5.5	4.0	4.1	4.2
Malawi	7.6	5.4	6.3	5.5
Mauritius	5.4	2.2	1.8	2.2
Mozambique	5.4	6.0	6.0	6.4
Namibia	2.2	4.9	4.0	4.0
Seychelles	6.0	3.9	2.2	2.0
South Africa	3.9	3.7	4.0	3.8
Swaziland	3.7	4.0	3.9	4.9
Tanzania	5.5	5.5	5.6	5.6
Zambia	5.3	5.3	5.3	5.2
Zimbabwe	5.4	5.4	4.7	4.8
SADC (avg)	4.8	4.8	4.5	4.6
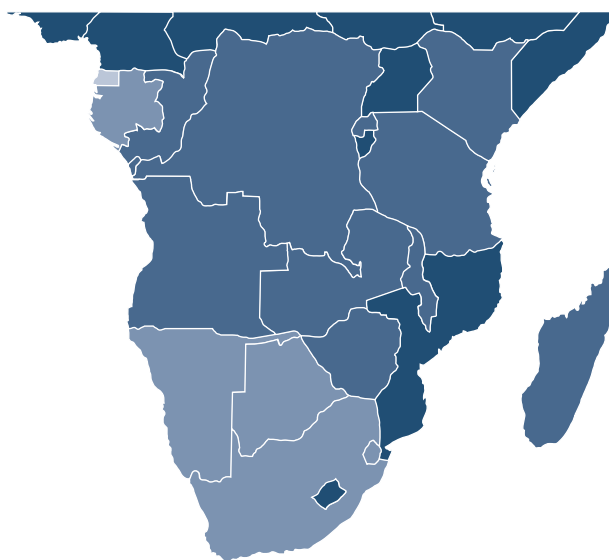
Note: higher scores indicate greater risk

Source: Africa Union Commission, *Biennial Report on the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa* (Addis Ababa: AUC, 2020).

Vulnerability increased slightly in the SADC region from 2015. Vulnerability (and risk) emerges within a certain social context and is fuelled by characteristics of natural systems (for example, natural disasters that are becoming more frequent and intense). The general increase in vulnerability among the MSs can be ascribed to inadequate and poor development (and development planning), poor governance and corruption, the inability to address poverty, inequalities and poor economic performance among other things.

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19   Emergency Events Database (EM-DAT), database, https://www.emdat.be.

Table 4   SADC Lack of Coping Capacity Index (2015–2018)

COUNTRY	2015	2016	2017	2018
Angola	6.8	7.1	7.0	7.3
Botswana	7.7	4.9	4.8	4.6
Comoros	5.7	7.2	7.0	6.7
DRC	6.8	8.1	8.0	8.0
Lesotho	4.8	6.7	6.7	6.7
Madagascar	7.1	7.9	7.6	7.6
Malawi	8.3	6.4	6.4	6.3
Mauritius	6.8	5.0	2.8	2.8
Mozambique	6.7	6.8	6.7	6.6
Namibia	3.2	5.5	5.3	5.1
Seychelles	7.2	3.6	3.6	3.5
South Africa	3.4	4.6	4.4	4.3
Swaziland	4.8	5.7	5.5	5.4
Tanzania	6.9	6.6	6.5	6.5
Zambia	6.3	6.3	6.1	5.8
Zimbabwe	6.9	5.7	5.8	5.8
SADC (avg)	6.9	6.1	5.8	5.8
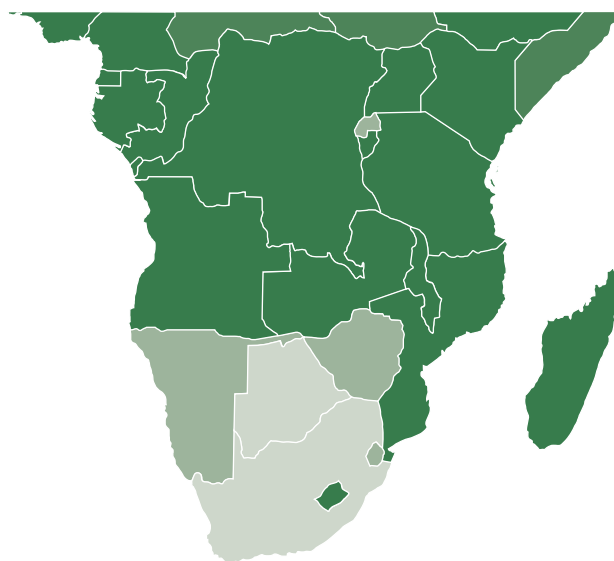
Note: higher scores indicate greater risk

Seven of the 16 MSs reported a slight overall increase in their coping capacity. Compared to other RECs, SADC's progress in this regard seems to have been the greatest over the last five years. This correlates with the data drawn from the Emergency Events Database that shows a decrease in affected populations and direct economic losses. The question thus remains: How can the risk posed by disaster be reduced within SADC and its MSs? The answer is inherent to the components that constitute disaster risk. However, these components – including vulnerability and capacity – cannot only be addressed by one government entity or one programme. A holistic approach is needed, guided by legal instruments, which will address cross-sectoral DRR and build resilience, limiting duplication and ensuring policy coherence.

Disaster risk reduction in the SADC Secretariat and member states

After 2005 (following the Hyogo Framework for Action), the majority of SADC MSs amended their laws or proclaimed new legislation in an attempt to effectively lower their disaster risk and align with international best practice. In a bureaucratised environment such as government, it is the legal and statutory instruments that guide action and ignite

anticipatory governance. An understanding of how SADC and its MSs are doing in terms of reducing the risk of disaster in the region leads to an understanding of how anticipatory governance can be pursued.

TABLE 5	DISASTER RISK REDUCTION FRAMEWORKS IN SADC MEMBER STATES
SADC member state	**Frameworks**
Angola	• Act: No legislation • National Calamity and Natural Disaster Preparation, Contingency, Response and Recovery Plan for 2009 – 2014 (Presidential Decree No.205/10) • National Calamity and Disaster Preparation, Contingency, Response and Recovery Plan for 2015 – 2017 (Presidential Decree No.29/2016) • Presidential Decree No.103/2011 to establish the National Strategic Plan for Disaster Management • Presidential Decree No.30/2016 to establish the National Strategic Plan for Prevention and DRR • Law No.03/04 of June 25, Law of Spatial Planning (LOTU) • Decree No.13/07 of 26 February, General Regulation of Urban Buildings • Presidential Decree No.195/11 of 8 July, Approves the regulation on the legal regime of fire safety in Buildings • Presidential Decree No.185/17 of 11 August, Organic Regulation of the S Presidential Decree No.133/15 of June 12 approving the Legal Framework of Letters of Risk • Presidential Decree No.29/16 of 3 February approving the Legal Regime for Protection against Lightning • National Development Plan - 2018 - 2022 • Presidential Decree No.229/10 of 8 October approving the Regulation on the functioning of the Civil Protection Operational Coordination Centers • Basic Law of Civil Protection No.28/03 PCB
Botswana	• Act: No legislation • The Botswana National Disaster Management Policy of 1996 • National Disaster Risk Management Plan of 2009 • National Disaster Risk Reduction Strategy, 2013–2018
Comoros	• Act: n/a
Democratic Republic of Congo	• Act: No legislation • 1996 Decree creating the Civil Protection Council (National Crisis Committee) • 2002 Decree on the National Programme on Emergencies and Humanitarian Action • The 2003 Decree on the Transitional Government (2003) Decree No.03/027 of 16 September 2003, determining the attributions of the Ministry of Solidarity and Humanitarian Affairs • Decree No.13/008 of January 23, 2013, establishing and setting up the National Framework for Humanitarian Consultation • 2018 National Strategic Program for Development (PNSD)

Eswatini	• Act: Disaster Management Act 1 of 2006 • National Disaster Risk Management Policy of 1999, • National Disaster Management Policy adopted in 2010
Lesotho	• Act: National Disaster Management Act 2 of 1997 • The National Disaster Management Plan of 1996, • The National Action Plan for Capacity Development in DRR of 1997 • The Disaster Management Manual of 1997
Madagascar	• Act: Law 2015-031 of 12 February 2016, on the National Policy on Disaster Risk Management • Decree 2019-1954 of 16 October 2019 • National Strategy for Risk and Disaster Management – 2015-2030 of 13 September 2016 • The Action Plan of the Strategy National of DRM
Malawi	• Act: Disaster Preparedness and Relief Act 24 of 1991 • National Disaster Risk Reduction Framework, 2010-2015
Mauritius	• Act: No legislation • National Disaster Risk Reduction and Management Bill • Mauritius Fire and Rescue Services Bill of 2013.
Mozambique	• Act: Lei n°15/2014 de Gestão de Calamidades (DRR Law) of 2014 • Disaster Management Policy of 1999 • National Master Plan for Prevention and Mitigation of Natural Calamities of 2006 • Plano Director de Redução do Risco de Desastres 2017-2030 (Master Plan for Disaster Risk Reduction 2017-2030) approved on 2017 (Revised, first one was approved on 2006) • National Disaster Risk Reduction Indicator Framework approved in 2017 • Decreto 53/2017 sobre o Fundo de Gestão de Calamidades (Disaster Management Fund approved by the government on 2017) • National Basic Social Security Strategy (ENSSB-2016-2024)
Namibia	• Act: Disaster Risk Management Act 10 of 2012 • National Disaster Risk Management Framework (2019) • Disaster Risk Management Policy (2018) • National Strategy for Mainstreaming DRR and CCA into Developmental Planning (2017-2021) • Awareness and communication Strategy for DRM (2018-2022) • DRM Standard Operational Procedures (2018)
Seychelles	• Act: National Disaster Risk Management 15 of 2014 • National Disaster Management Policy of 2010
South Africa	• Act: Disaster Management Act 57 of 2002 (amended in 2015) • National Disaster Management Policy Framework (NDMF) in 2005
Tanzania	• Act: Disaster Relief Coordination Act of 1990 • Disaster Relief Coordination Regulations of 1991 • Bill Supplement 5 of 2014) for the enactment of the Disaster Management Act. • National Operational Guidelines for Disasters of 2003 • National Disaster Management policy of 2004

Zambia	• Act: Disaster Management Act of 2010 • Disaster Management Policy of 2015 • Disaster Management Operations Manual of 2015 • National Disaster Risk Management Framework of 2017 • Seventh National Development Plan, 2017
Zimbabwe	• Act: Civil Defence Act of 1982 repealed by Civil Protection Act 5 of 1989

Source: Africa Union Commission, *Biennial Report on the Programme of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 in Africa* (Addis Ababa: AUC, 2020)

Table 5 shows that the region is steadily instilling DRR principles though state mechanisms such as legislation and policy. However, these mechanisms do not necessarily facilitate – or even aim to achieve – anticipatory governance. As has been noted before, anticipatory governance can only become a reality when certain aspects are present.

A SADC report[20] – compiled as part of an assessment of Africa's progress in terms of the Sendai Framework for Disaster Risk Reduction 2015-2030 – highlights important points related to anticipatory governance for DRR. MSs reported that, in most instances, they have made some progress in hazard and vulnerability assessments, and early-warning systems have been expanded. However, these early-warning systems are not adequate for multi-hazard tracking and monitoring. More involvement in and leadership from the SADC DRR Unit is needed in this regard. Vulnerability assessments and the hazards themselves also differ significantly in their scope and methodology across the region, which makes cross-border comparisons problematic. Functioning well across borders are meteorological services, despite the persistence of funding and technological challenges internal to MSs. Furthermore, MSs, international organisations, donors and the SADC Secretariat regularly meet to monitor food security and extreme climatic events (such as El Niño and La Niña). Regional forecasts inform regional responses. Some contingency measures are also developed based on this collective knowledge. However, a foresight system that enables anticipatory governance for DRR in the MSs is not yet in place; elements of foresight can be identified, just not in one system. This is largely due to the public sector's lack of understanding, reluctance and inability to adapt and change; limited multi-hazard scenario planning and monitoring; and the lack of a 'blueprint' on which foresight can be based.

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20   Africa Union Commission, Biennial Report on the Programme of Action for the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa (Addis Ababa: AUC, 2020).

A national state of disaster was declared in South Africa in March 2020, which drew media and public attention towards the South African Disaster Management Act 57 of 2002 and the legitimacy of its regulations and restrictions. After numerous legal challenges from civil society and political parties, the Disaster Management Act has proved its legal robustness and ability to deal with any type of hazard. The issues raised during these challenges provided a rich feedback loop for learning and adapting. The ability to establish new structures to deal with the pandemic could be cited as an achievement for adaptive governance. Scrutinised in terms of transparency and state accountability, these new structures relied on close cooperation between the various spheres of government and ensured an integrated COVID-19 response that took into account the social, economic and environmental aspects of the risk value chain. From the start, the government's pandemic response ensured sustained communication through multiple channels, a clear sign of anticipatory governance harnessing technology. Furthermore, the pandemic enforced a new way of working in the face of the Fourth Industrial Revolution. Throughout the pandemic, it has become clear that all government levels can adapt, and in a short span of time. In terms of DRR, the South African government implemented a flexible and adaptable risk-adjusted strategy that highlighted the need for systems thinking. Although it is first and foremost a health crisis, the COVID-19 pandemic has had knock-on and trigger effects on other sectors, which have proven that a holistic and integrated approach is required. The South African government also learnt that urgent attention to, and education in, risk governance is needed across all its spheres and in all sectors, including the private sector and civil society. COVID-19 highlighted the need for multi-hazard risk assessments and unified responses and incident management in all linked systems.

Noteworthy is the fact that SADC is actively engaging MSs to foster policy cohesion across sectors and borders. An example is the 2020 SADC Regional Resilience Framework 2020–2030,[21] a platform that could instil MS-specific resilience thinking. However, such a networked system might exist on paper but us yet to be tested in practice. As could be expected of bureaucracy, an open-minded institutional culture (across the region and within the SADC Secretariat) might be the most difficult element of anticipatory governance to achieve. Such an open institutional culture is related to *Auftragstaktik*, which is in essence a foreign principle considering the decision-by-consensus culture that is commonly found in Southern African countries. Taking its cue from the Regional Resilience Framework, the SADC DRR Unit is facilitating DRR peer review between the governments of Namibia and Malawi, an excellent example of how feedback mechanisms and collective learning can lead to adaptation and change for anticipatory governance. Feedback loops

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21   Southern African Development Community (SADC), *SADC Regional Resilience Framework 2020-2030* (Gaborone: SADC, 2020).

have been created to learn from past experience; to this end, following major disasters, the SADC DRR Unit has hosted a number of debriefing sessions with MSs. Learning from past experience is essential not only to improve DRR but also to ensure anticipatory governance.

Lessons learnt and needs identified: Cyclones Idai and Kenneth

The combined force of cyclones Idai and Kenneth, which hit the region in March and April 2019, rapidly exceeded the Mozambican government's ability to respond. Strong winds of up to 180km/hour, widespread destruction, loss of livelihood and life, rain and flooding made cyclone Idai one of the deadliest and devastating to hit the region. Kenneth, in turn, was a Category 4 cyclone, the strongest to ever make landfall in Africa characterised by winds of more than 220km/hour. Given the torrential rain accompanying the cyclones, Mozambique and Zimbabwe experienced severe flooding. Multiple vulnerability in this area of Mozambique exacerbated the impact of the cyclone.

In the aftermath of this period of natural disaster, research highlighted some of the key learnings.[22] The benefits of cross-border and international collaboration – within the meteorology space in this instance – became clear. Years of regional cooperation between various meteorological service providers, which ensured maintenance of equipment and skills, resulted in the cyclones being accurately forecasted. In Mozambique, the collaboration between the Instituto Nacional de Gestão de Calamidades (National Disaster Management), established in 1999, and other key government bodies, civil society and humanitarian sector stakeholders bore fruit. By the time Idai and Kenneth touched down, trust and cooperation had already been established between all of these role-players, and responsibilities had been clearly delineated, all of which contributed significantly to the country's urgent multi-sectoral response to these hazards.

Needs identified during the response to the cyclones include:

• Improving the region's end-to-end and multi-hazard early-warning systems;

• establishing regional coordination of technical resources for humanitarian, relief and recovery efforts, policy, legislative and institutional arrangements, resource requirements (human and financial), capacity, infrastructure, and logistics;

• incorporating DRR thinking into water, sanitation and hygiene programmes;

• supporting risk-informed livelihood programmes;

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22   Zurich Flood Resilience Alliance, *Learning from Cyclone Idai and Cyclone Kenneth to Inform Long-term Disaster Risk Reduction Programming in Mozambique* (Government of Switzerland, IFRC and Mozambique Red Cross Society, 2020) https://reliefweb.int/report/mozambique/learning-cyclone-idai-and-cyclone-kenneth-inform-long-term-disaster-risk-reduction.

- localising knowledge, technical skills, capacities and equipment maintenance to support disaster preparedness, response and recovery; and

- identifying at-risk and remote communities prior to, during and following a disaster in order to increase their access to critical systems.

Current humanitarian responses seem to focus on timelines instead of outcomes and needs, such as returning households to acceptable levels of food security or permanent housing. A shift should be facilitated from solely responding to disasters as and when they occur to long-term, integrated, climate-smart DRR. This shift is not new but it is seemingly difficult to implement across sectors. Interestingly, an emphasis on systems thinking has emerged in humanitarian relief and DRR. There is need for an integrated approach addressing underlying risk factors. To this end, community participation and capacity development must be enhanced. Community members are best positioned to identify and manage needs, risks and the resources or access that can enable their development and growth. Key to such community participation is local leadership. In most response activity following the two cyclones, consultation with local leaders was limited, which meant once the experts left, there was a recovery-leadership void. Interventions and investments must be risk-informed, evidence based, and tailored to local circumstances. Lastly, needs differ across class, geographical space and location. The lessons learnt in the response to the two 2019 cyclones bear a striking resemblance to the elements of anticipatory governance. OThe same could be said of lessons learnt during COVID-19 response efforts.

Effect of COVID-19 and other aspects of disaster risk reduction

The global COVID-19 pandemic continues to make a significant impact on the region. Early March 20202 saw the first incidence in SADC, and by the middle of April, 14 of the 16 MSs had reported cases. Towards the end of November 2020 all 16 MS reported active COVID-19 cases. One of the most worrisome aspects of the pandemic has been its socio-economic impact on the region, largely due to limited resources and healthcare-system inadequacies in the majority of MSs.

Most cases and deaths in the region were recorded in South Africa (see Table 6). At the end of November, the majority of the MSs reported more than 6,000 active cases each, while the directly related deaths remained few; South Africa was the exception in this regard. There are various reasons for other countries' figures being comparably lower to those of South Africa; these include limited testing, inadequate reporting procedures, remoteness of some communities, unreported cases, lack of knowledge among general population, poor data management, absence of feedback loops, and/or limited spread of the virus.

The COVID-19 pandemic furthermore exposed a number of societal and institutional fault lines including:

- system inability to anticipate a hazard of such magnitude;

- inadequate decision-making (and paralysis in some instances);

- poor structures;

- inability to understand complexities between systems; and

- lack of skills, resources and knowledge.

BOX 2 CASE STUDY: ZIMBABWE
The pandemic compounded the effects of Zimbabwe's widespread and longstanding economic and political challenges. There were certain country-specific challenges that emerged during the pandemic. The possible movement of returnees from other MSs was unclear, and there was an urgent need for comprehensive social protection for many citizens. Primary responders needed support, especially for trauma and burnout, and existential-risk scenarios needed to be planned. The country indicated that positives to come from the response included good resource mobilisation and rapid improvements to health infrastructure. At sub-regional level, DRR could have helped with issues such as returnee coordination, lockdowns and resource mobilisation. Some local structures identified the need for funds to be decentralised from provinces to local authorities in order to accelerate the response and also clarify budget allocations at the various levels. The need to address the knowledge gaps of health and community workers in relation to COVID-19 is also a valuable lesson. More research and investigation is needed to understand local transmission of biological hazards. Within the Mashonaland West Province, the Chinhoyi Provincial Hospital expertly managed disaster-related data by setting up a laboratory information system that tracked COVID-19 samples in the province, reducing the incidence of lost samples and contributing to the overall accuracy of information. This localised tracking systems significantly reduced turnaround times and allowed for almost live reporting.

TABLE 6 CONFIRMED COVID-19 CASES IN SADC[a]		
Member state	**Confirmed cases**	**Deaths**
Angola	15,087	345
Botswana	9,992	31
Comoros	610	7
Democratic Republic of Congo	12,607	333
Eswatini	6,406	121
Lesotho	2,107	44
Madagascar	17,341	251
Malawi	6,025	185
Mauritius	501	10
Mozambique	15,586	129
Namibia	14,285	150
Seychelles	172	0
South Africa	785,139	21,439
Tanzania	509	21
Zambia	17,589	357
Zimbabwe	9,822	275
SADC	913,778	23,698
SADC (excluding South Africa)	128,639	2,259

a   As of 29 November 2020. World Health Organization, https://covid19.who.int/

Source: World Health Organization, WHO Coronavirus (COVID-19) Dashboard, https://covid19.who.int/

Important lessons from the COVID-19 response[23]

The global response to the pandemic was inadequate in most instances, especially in terms of institutional ability to deal with biological hazards. The required response could not have been foreseen. Yet earlier coronaviruses, such as SARS and camel flu, provided evidence of the possibility of such a global pandemic.

SADC was not prepared for COVID-19. The reach and communicability of this biological hazard, which had a substantial impact on health and livelihoods, caught everyone off guard, and all MSs were ill prepared. The region's economies were not prepared to deal with the disaster and there were not any contingencies in place. MSs had to look for alternative funds outside of the region. MSs did not have the needed DRR policies in place; existing legislation was inadequate. Within the Secretariat, the siloed nature of committees meant that there

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23   Findings are generalised and based on online interviews conducted with the SADC DRR Unit staff members as well as MS representatives.

was not an awareness of the impact across sectors, which hampered coordination. However, the Secretariat could – and did – set up new committees to deal with the pandemic.

There is an urgent need to develop an early-warning system that can caution against multiple hazards, and potentially also a regional disease control facility. DRR planning must be improved across borders, and information sharing must become institutionalised. Definite policy changes are needed to ease inter-MS collaboration and sharing of expertise. This can be facilitated with a new regional DRR policy to be developed in 2022. SADC intends to work closely with the African Union Commission to develop this policy and ensure its alignment with the Africa DRR Plan of Action.

Hitting both the private and the public sector hard, the pandemic showed the urgent need for close cooperation between the two – policies cannot be developed and implemented in isolation. Evidence-based policy – and policy-based evidence – becomes crucial.

The private sector should contribute to risk reduction efforts, and businesses should be made risk proof through existing mechanisms such as continuity and contingency planning.

These processes must be aligned to MS and regional disaster risk profiles. Financing disaster response and recovery efforts needs to be studied.

BOX 3   CASE STUDY: MAURITIUS

This small island state has learnt very particular lessons. It is remote, and its population is small, so compared to those of other SADC MSs, its response to any biological hazard has to be focussed and time sensitive. During pandemic times, crisis management structures need to be set up quickly before a virus reaches the island – this is of utmost importance. Any outbreak needs to be managed effectively at a tactical level and involve all possible role-players. An analysis involving all resources and stakeholders must be carried out at all the different levels (strategic, tactical, operational and technical). The island country learnt that a complete operation plan must be set up, outlining standard operating procedures and the rules and responsibilities of each stakeholder at the different stages of the pandemic. Mauritius discovered the importance of an information management system that controls all information disseminated to the media and public, and that there should be an ongoing sensitisation campaign, extending post-COVID-19, to ensure the general population continue to take preventative measures and act responsibly. Mauritius also learnt to prioritise constant testing of first responders, as they are particularly scarce – and hence valuable – in such a small country. Furthermore, local legislation helped to regulate the care and movement of affected members of the population.

Attention must be given to the establishment of regional specific and relevant funding mechanisms, such as the resilience fund alluded to in the Regional Resilience Framework. The private sector must be part of such funding mechanisms.

Policymakers and DRR systems in general are likely not yet aware of the full magnitude of the pandemic's socio-economic impact. There seems to be a reluctance to use DRR measures to protect the social and economically vulnerable. However, SADC was able to recognise the need for an immediate high-level response, undertaken by a number of SADC committees established for this purpose. Once such committee consisted of regional Cabinet ministers.

The lack of preparedness highlighted the need for an adequate early-warning system. The DRR Unit emphasised that any such system must be able to pick up multiple hazards, and recognised the need for these systems to be integrated in the future. Integration will enable multiple actors across sectors to share their knowledge of disaster risk and establish important links across systems, which will go a long way towards a networked system for anticipatory governance in DRR.

Through direct and continued MS involvement, SADC needs to develop and support a multi-sectoral early-warning system that can raise the alarm for a multitude of hazards.

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Central to such an integrated early-warning system is legislating cross-border data and information sharing. An immediate need is for protocols to be put in place.

Instead of guiding and leading decision-making in the region, COVID testing, isolation and quarantine followed it; the response followed the disease instead of pre-empting it. This is a sign of poor governance and shows that feedback – and, ultimately, the principle of *Auftragstaktik* – is not present.

Another lesson from the response has been the absence of adequate legislative mechanisms for epidemics/biological hazards in the region. Legislation did not cover all the needs in the pandemic. Although there were various committees (contributing to a networked system), each interpreted the statistics and actions differently. This shows that knowledge management is key to creating risk awareness. Without knowledge, on the part of decision-makers as well as the general public, behaviour cannot be changed. Only through a systems and resilience thinking approach can anticipatory governance be achieved.

> Only through a systems and resilience thinking approach can anticipatory governance be achieved

The pandemic has already ensured that SADC is focussed on the future. An example is that the strategic DRR objectives now form part of the new Regional Strategic Indicative Development Plan (RSIDP), which can build on a foresight system to enable change. However, the RSIDP is in itself neither a foresight framework (policy) nor a foresight system (implementation). Such frameworks and systems need to be built by raising awareness among policymakers and the general public, and require possible dedicated foresight units at MS and regional level, supported by capacity development and academic programmes. The intention is to 'risk proof' development and stimulate risk-oriented programme planning.

Thus far, the pandemic has led to inward and outward actions. Inward, concerted actions are needed to ensure integration. Outward, the pandemic has exposed a number of short-comings in regional understanding of systems integration, food security being an excellent example. In all cases, the SADC response must be informed by MS data, information and actions. For example, food security has traditionally been looked at from an agricultural-production, value-chain perspective. Showing that events outside the value chain can equally threaten food security, the pandemic has exposed systemic flaws in regional thinking and has raised questions about SADC's approach to food security for the future. These systemic flaws are being addressed by mainstreaming DRR. If this mainstreaming is successful, it could result in an open-minded institutional culture where a risk focus drives development decisions. Resilience thinking has become more important than ever.

Lessons from the COVID-19 response will feed directly into a new DRR strategy for the region to be developed in 2021. This strategy will be more comprehensive and comprise more sectors than its forerunners. The COVID-19 response has addressed inter-departmental organisation through responsive interaction and structures. In this regard, the DRR Ministers in MSs have been proactive, already meeting in late-2020. Similarly, the DRR technical committee was sketching future scenarios going into 2021, taking into account the lessons learnt during the pandemic and projecting the future. The mainstreaming of DRR in infrastructure, health, water, hygiene and sanitation, and education programmes has already started though World Bank funded projects. The idea of such mainstreaming is to 'risk-proof' flagship programmes in the region.

Linked to an early-warning system, which can provide foresight in terms of tracking and monitoring hazards, is the direct strategic integration of disaster risk reduction into regional development planning. All development planning must be risk informed and risk proofed. Monitoring vulnerability reduction is important to create a foresight system that will inform development choices towards more favourable resilience outcomes.

Furthermore, the DRR Unit has identified the need for MSs to develop their capacity and preparedness. The DRR Unit aims to support research through regional institutions. It plans to investigate DRR finances and set up a regional financing mechanism. The aim is to also work much closer with African Risk Capacity (ARC),[24] enabling MSs to join and make use of the agency's services. It is hoped that this will ensure a future-focussed funding mechanism/facility for the whole of SADC.

From a policy perspective, SADC approved the Regional Resilience Framework in early 2020. Systems thinking and complexity is rooted in this framework, which allows MSs and other stakeholders to align their resilience thinking across sectors and borders. There is also a push towards integrating the policy, technical and implementation agendas between DRR and climate change adaptation. The Secretariat has already engaged with a number of stakeholders, including international donors, in this regard.

> MSs and the SADC Secretariat must build trust among and between regional institutions, donors, development organisations and communities in order to ensure decentralised decision-making and implementation and remove the notion of centralised control

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Future(s) perspective

The normative narrative of futures thinking is evident within the SADC Secretariat. There is a need for a collective pandemic management framework and stronger partnerships. Awareness must be created at all levels, accompanied by the correct capacities. In future, the SADC DRR Unit should be concerned with hazard impacts at all levels and how we behave in the face of the risks brought about by these disasters. Risk communication and knowledge management therefore becomes critical, and the correct governance

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24   The African Risk Capacity (ARC) is a specialised agency of the African Union that was established to help African governments improve their capacities to plan, prepare and respond to extreme weather events and natural disasters. Through collaboration and innovative finance, ARC enables countries to strengthen their DRM systems and access rapid and predictable financing when disaster strikes to protect the food security and livelihoods of their vulnerable populations. ARC comprises the African Risk Capacity Agency and ARC Limited (Ltd). Together, they provide ARC MSs with capacity building services and access to state-of-the-art early-warning technology, contingency planning, and risk-pooling and -transfer facilities.

instruments must be in place. They should be robust enough to deal with any type of hazard. However, more cooperation and conversations around disaster risks are needed.

The SADC DRR Unit is in the process of establishing a regional emergency operations centre, to offset the chronic risk in which many MSs find themselves and their subsequent inability to adequately recover before the next hazardous event. It is envisaged that the centre will be able to function full time, and similar centres will be established at MS level in future. Such a centre must be governed by instruments that ensure comprehensive responses. Following the COVID-19 pandemic, the SADC DRR Unit identified the need for up-to-date data, data mining, analysis and reporting to coordinate regional risk-reduction and – where needed – disaster-response efforts.

SADC needs to urgently assess policies across the board for their consideration of cross-sectoral DRR issues. It is envisaged that the 2021 SADC DRR Conference will bring many role-players together to consider lessons and how the system(s) need to change. To further accountability, and aligned with the SADC Regional Resilience Framework, Namibia and Malawi's DRR structures and policy instruments are being peer reviewed in an initiative that builds on systems thinking ideas of learning through enhancing networks, creating feedback loops – and fostering an open-minded institutional culture.

> The region must aim to achieve policy cohesion for climate change adaptation, development and disaster risk reduction. Such cohesion will ensure multiple gains with less effort and fewer financial burdens

The region must aim to achieve policy cohesion for climate change adaptation, development and disaster risk reduction. Such cohesion will ensure multiple gains with less effort and fewer financial burdens. The linkages between development, disaster risk reduction and climate change in the adaptation praxis need to be understood and directly addressed.

The SADC DRR Unit could have coordinated its MS responses to COVID-19 and ensured that these were sustained. Even as the region moves to resilience building, it is not clear where MSs stand in terms of standardisation of practices and coordination of measures (including transboundary ones). It is not clear at this stage whether there is any SADC COVID-19 DRM response and recovery plan to guide MSs going into the future.

Key future risk trends

One thing that the COVID-19 pandemic has shown is that circumstances perceived to be 'normal' can quickly and deeply be challenged. 'Abnormal' events, which under other

circumstances might seem unfathomable, can shake the foundations of 'the known' and cause social and economic disruption. When the normal is challenged in this way, the inadequacies and fault lines in our systems are laid bare. The COVID-19 pandemic is but one hazard – and it has forced us into a postnormal world.[25]

Moving into the future, the possibility of known, unknown and unknowable risks[26] within the SADC region need to be considered. Such risks can be driven by either a particularly hazardous event (such as another pandemic similar to COVID-19) or an increase in vulnerability and exposure. In terms of the former, the region might be more prepared due to the lessons learnt from COVID-19 and the recurring disasters over the last two decades. In terms of the latter, there is a number of unknowns that might contribute to heightened risk. A collection of postnormal potentialities[27] offers some insight into possible future DRR scenarios in the SADC region. These potentialities are ways of studying accelerating change and exploring possibilities for the emergence of postnormality in the present as well as in the future. Three symbolic animals could guide our thinking: black elephants, black swans and black jellyfish.

Evolving from the 'elephant in the room', a black elephant is a high-probability, high-impact event that is extremely likely and widely predicted by experts. However, such an event causes a shock that makes the event seem as if it were unpredictable. In SADC, events linked to extreme weather conditions – such as more intense tropical cyclones, tsunamis following tectonic activity in the Indian Ocean, regional droughts or climate-change-induced water scarcity – could be described as black elephants. Other black elephant events could include:

- Run-away vulnerabilities due to failed economic performance and rises in inflation,

- unaddressed inequalities,

- poor governance,

- increasing food insecurities, nationalism and isolation,

- an increase in 'welfare state' ideas resulting in uncontrolled government overspending, and

- unsustainable exploitation of natural resources.

Black swan events are outliers beyond our observation. These low-probability, high-impact events seem to 'come out of the blue'. Due to their nature they are prone to miscalculation

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25   Jordi Serra del Pino, Christopher Jones and Liam Mayo, "The Postnormal Perfect Storm Part 2" *Postnormal Times*, May 5, 2020, https://postnormaltim.es/insights/postnormal-perfect-storm-part-2.

26   After the work of David Snowden, *Liberating Knowledge*. CBI Business Guide. (London: Caspian Publishing, 1999). The assumption is that unknown risks could be foreseen via foresight and futures literacy methodologies, including anticipatory governance. However, there are also unknowable risks that we will not be able to imagine or anticipate (preposterous futures) or unknowable unknowns – such as events in times of complete chaos.

27   Del Pino, Jones and Mayo, "The Postnormal Perfect Storm".

and underestimation. Typical black swan events in SADC could relate to activity in the Somalia tectonic plate that could cause severe earthquakes through Tanzania, Malawi and Mozambique. It could be debris and other threats from space. It could also be a collapse of the regional economic infrastructure, or war. Similarly, unexpected urban and population growth exceeding resource availability could be labelled a black swan.

Thirdly, there are black jellyfish events that could become postnormal by escalating rapidly, even instantaneously. These events are perceived as 'normal' but can have a very high impact, leading to instability. An example in SADC could be local xenophobia that rapidly escalates to an inter-MS war, or a climate-change-induced tipping point being reached in terms of resources. COVID-19 could be classified as a black jellyfish. However, the possibility of a pandemic has been talked about for years, and Africa has already showed competence in dealing with a biological hazard such as Ebola. This would suggest that it is a black elephant, needing immediate and concerted efforts to mitigate its possible future impacts on the region.

Systemic innovation to improve disaster risk reduction

To ensure anticipatory governance within DRR, there needs to be innovation in currently linked systems. All efforts in the region are commonly geared towards sustainable development. Creating integrated systems and opportunities will enhance multi-sectoral information sharing and knowledge management.

There are many examples of sustainable development driving DRR, and DRR in turn being insurance against disastrous impacts on hard-earned development gains. Any systemic DRR innovation must thus be within the current context of development in the region. A number of issues needs to be addressed to foster systemic innovation and possibly lead to anticipatory governance in DRR. Earlier in this paper, the progress SADC and its MSs have made in reducing disaster risk through institutions and policies was discussed; to this end, a number of statutory and regulatory DRR instruments has been developed for the region and for MSs. Lacking in some instances are DRR-conducive institutions with enough political support to fulfil their legislated mandate.

There is a need for feedback loops that cut across national boundaries to create, anticipate, transform, adapt and change knowledge.

As this paper has shown, there is a dire need for adequate and useful networking opportunities and collaboration between MSs, and also between sectors, to reduce risks posed by disasters. Called 'stakeholding', this collaboration involves identifying the correct stakeholders.[28] It is built upon stakeholders taking joint responsibility, and an appreciation

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28   John Colvin, Chris Blackmore, Sam Chimbuya, Kevin Collins, Mark Dent, John Goss, Ray Ison, Pier Paolo Roggero and Giovanna Seddaiu, "In Search of Systemic Innovation for Sustainable Development: A Design Praxis Emerging from a Decade of Social Learning Inquiry," *Research Policy* 43, no. 3 (2014): 760-771.

of past causes of current understanding and practices, as well as institutional arrangements. Stakeholding can lead to systemic change in the co-production of knowledge (across borders) and the joint identification of efforts and processes comprising future improvement.

The SADC Regional Resilience Framework is a good example of how systemic change is fostered by allowing MSs to take responsibility, while providing a platform for co-production of knowledge. In this case, resilience thinking identifies – on a MS as well as a regional level – what is needed to improve development and reduce disaster risk. Resilience thinking further allows for a systems-wide culture to develop, needs to be identified and connections to be made. Although anticipatory governance is a major step towards reducing risk associated with disaster, traditionally shaped legacy systems will not lightly shift from their usual behaviour to the new behaviour required by an anticipatory governance framework.

Constraints to adopting anticipatory governance

In the SADC region, anticipatory governance will not happen spontaneously. In general, public administration and management bodies in MSs and the Secretariat are not set up or geared for anticipatory governance. A more flexible and less politicised environment is needed that will allow for decentralised decision-making, devolution of power and supportive legal mandates among various organisational units. Linked to the above is not only an understanding of anticipatory governance but also of the skills needed to implement it in various environments. To facilitate the transition, dedicated training programmes for public officials are likely needed. The academic and training sectors will therefore themselves need to build internal capacity and integrate anticipatory governance thinking into existing public management and administration (and related) qualifications.

Conclusion

COVID-19 has starkly reminded SADC of the need for holistic and integrated systems – spanning across borders and sectors – that reduce the risk associated with disaster. The global pandemic has shown that, as a region, SADC is ill prepared to deal with the fall-out of a disaster of this magnitude. A number of lessons were learnt, and the SADC Secretariat as well as MSs exhibited an uncanny ability to adapt and change in a short span of time. However, moving into the future, anticipatory governance needs to be fostered within disaster risk governance.

This will not naturally happen as natural disasters, vulnerabilities and risk are managed. Rather, the principles of anticipatory governance need to be established – through concerted efforts within the various DRR systems in the region. Taking a resilience thinking

approach within complex adaptive systems will lead to multiple gains across scales, sectors and the region. It remains imperative for the region and MSs to be sensitive to a changing landscape and to use this in planning, transformation, adaptation and change. 'Wicked' problems – which are extremely complex and challenging to solve – should be understood through systemic thought underscored by thorough and scientific risk assessments.

For the region to reduce risk associated with disaster and move towards anticipatory governance, adequate reflection and feedback loops should be created, maintained and responded to. The region must strive towards an open culture of learning and sharing knowledge and resources in order to reduce disaster risk.

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Acknowledgement

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