



Evaluating progress on Target E of the SFDRR in SADC

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DECLARATION

I, Sonwabo Namba, hereby declare that: “Evaluating progress on Target E of the SFDRR in SADC ” is my original work, that all sources used or quoted have been indicated and properly acknowledged using complete references, and that this thesis was not previously submitted by me or any other person for degree purposes at this or any other university.

ACKNOWLEDGEMENTS

To God be the glory who gave me the strength to run this race in terms of the promise that “HE will never leave me or forsake me” no matter what will happen. (*Uzuko ku Thixo ondiphe amandla okufeza olugqatso.*) The Apostle Paul says: “Brethren, I do not count myself to have apprehended; but one thing I do, forgetting those things which are behind and reaching forward to those things which are ahead. I press towards the goal for the prize of the upward call of God in Christ Jesus” (Philippians 3:13-14, *Holy Bible*). The verse challenges me to keep moving forward in the Christian walk of faith.

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ABSTRACT

Disaster risk reduction (DRR) strategies are essential for formalizing its effective use. This study's main objective was to evaluate the progress of Target E of the SFDRR in SADC. A mixed-methods research methodology was employed to evaluate the MSs' progress. Interviews with DRR focal persons within the four SADC MSs and the SADC secretariat were conducted for this. The semi-structured interviews involved an online questionnaire. The questionnaire was designed to explore the challenges and successes of DRR implementation in SADC MSs and the importance of secretariat support. The responses were analysed to understand how the SADC secretariat could better support its MSs in their DRR efforts. However, there were some drawbacks to using a questionnaire for data collection. For example, respondents might not be entirely honest in their answers or dispose of the time or motivation to answer the questions thoroughly. Additionally, the questionnaire might not be able to capture the complexity of the respondent's experiences.

DRR strategies have been in place among 15 of the 16 SADC MSs, while the Democratic Republic of the Congo was found to be the exception to this. Some SADC MSs have taken significant steps towards developing strategies, promulgating laws, and revising existing plans, strategies, and legislation around DRR since the Hyogo Framework for Action (HFA) was established in 2005. However, more must be done to ensure these strategies are effectively implemented and monitored throughout the region. Poor technical and institutional capabilities, insufficient funding, little decentralization of DRR, and weak governance are the main obstacles to their implementation. These obstacles limit the ability of governments to create effective policies and plans for DRR and allocate sufficient resources for their implementation. In addition, the lack of decentralization of DRR means that local governments are often unable to access the necessary resources and support for such implementation. For instance, local governments often lack the technical expertise to develop and implement the plans they need to guide the implementation of additional DRR activities that can assist in risk reduction and resilience building.

Governments in SADC and different stakeholders must focus immediately on accelerating the development of risk-informed plans to meet the Sendai Framework's goals, notably Target E. The latter set the ambitious goal of reducing disaster losses in lives, natural resources, and economic assets by 2030. To achieve this, governments and a wide range of stakeholder groups must prioritize risk reduction measures, such as early warning systems, better building codes, and improved land use planning. To further strengthen their efforts,

governments and a wide range of stakeholder groups should emphasize public awareness initiatives and provide resources for communities to pursue DRR strategies.

Keywords: Disaster risk reduction (DRR) strategies, evaluate, progress, Sendai Framework Disaster Risk Reduction (SFDRR) Target E, Southern African Development Community (SADC)

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ACRONYMS

CRED	CENTRE FOR RESEARCH ON THE EPIDEMIOLOGY OF DISASTERS
ARSDRR	AFRICA REGIONAL STRATEGY FOR DISASTER RISK REDUCTION
AUC	AFRICAN UNION COMMISSION
CADRI	CAPACITY FOR DISASTER REDUCTION INITIATIVE
DRR	DISASTER RISK REDUCTION
GAR	GLOBAL ASSESSMENT REPORT
HFA	HYOGO FRAMEWORK FOR ACTION
IFRC	INTERNATIONAL FEDERATION OF RED CROSS AND RED CRESCENT SOCIETIES
OIEWG	OPEN-ENDED INTERGOVERNMENTAL EXPERT WORKING GROUP ON INDICATORS AND TERMINOLOGY RELATING TO DISASTER RISK REDUCTION
POA	PROGRAMME OF ACTION FOR THE IMPLEMENTATION OF THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015-2030 IN AFRICA
SADC	SOUTHERN AFRICA DEVELOPMENT COMMUNITY
SDGS	SUSTAINABLE DEVELOPMENT GOALS
SFDRR	SENGAI FRAMEWORK FOR DISASTER RISK REDUCTION
UN	UNITED NATIONS
UNISDR	UNITED NATIONS OFFICE FOR DISASTER RISK REDUCTION

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CHAPTER 1: INTRODUCTION, BACKGROUND AND METHODOLOGY

1.1 Introduction and background

Members of the Southern African Development Community (SADC) are at risk of various hazards, which, combined with vulnerability, can lead to disasters (SADC, 2018). According to the Centre for Research on the Epidemiology of Disasters (CRED, 2016), droughts, floods, diseases, pest infestations, fires, transportation accidents, and industrial accidents are more likely than conflict, earthquakes, and tsunamis. As a result, SADC member states (MSs) need to be prepared to mitigate the impact of these potential disasters through the development of effective risk reduction strategies. However, Peters, (2018) argues that conflict, earthquakes, and tsunamis are more likely to occur than droughts, floods, diseases, pest infestations, fires, and transportation and industrial accidents. Therefore, SADC members need to be prepared for all potential disasters, not just those that are more likely to occur (Peters, 2018).

Disaster risks can cascade across the continent as a result of these development challenges and natural and human-induced hazards (Fraser et al., 2017). Disaster risk reduction (DRR) strategies and plans focus on building societal resilience to prevent losses and damages from disasters. To achieve this, DRR must be a priority in development plans and policies to ensure the health and safety of people and reduce the economic and social losses caused by disasters.

In 2015, 187 United Nations (UN) MSs adopted the Sendai Framework for Disaster Risk Reduction (SFDRR-2015-2030), which committed governments to develop and implement strategies, policies, and plans for DRR (UNDRR, 2015a). Among the goals of the SFDRR is a substantial reduction of disaster risk and losses in terms of lives, livelihoods, health, and economic, physical, social, cultural, and environmental assets. The SFDRR provides a framework for countries to identify, assess, and reduce disaster risks by strengthening resilience and enabling effective actions. It sets out seven global targets and four priorities for action which focus on understanding risk, strengthening governance to manage risk, investing in resilience, and enhancing early warning systems (UNDRR, 2015).

In 2015, the United Nations Office for Disaster Risk Reduction (UNDRR) envisaged an outcome of preventing new disaster risks and reducing existing ones by implementing 44 inclusive and integrated economic, structural, legal, social, health, cultural, educational, environmental, technological, political, and institutional measures that would prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for disaster response and recovery, and strengthen resilience. This means that the UNDRR wants to create an integrated system of measures that address all aspects of disaster risk, from environmental and legal to economic and

social. These measures will help prevent and reduce risks, increase preparedness, and strengthen resilience to protect populations from disasters. By doing so, the UNDRR is aiming to create a future where disasters are managed effectively and comprehensively. After 2015, two additional significant international agreements were made: the Paris Agreement on Climate Change (UN, 2015a) and the Sustainable Development Goals (SDGs) (UN, 2015b). The integration of DRR, biodiversity and conservation, climate change adaptation, sustainable development, and humanitarian goals became more practical as a result of concerted efforts to ensure that these agreements are mutually reinforcing (UNDRR, 2019; Manyena, 2016). These agreements provide a framework for countries to work together to address global challenges such as climate change, biodiversity loss, and poverty. They also create an opportunity for countries to collaborate and share resources and knowledge to achieve better outcomes. For instance, the Paris Agreement encourages countries to take joint action towards reducing greenhouse gas emissions and to develop strategies for adaptation and mitigation of climate change impacts.

Countries in the SADC region are gradually making progress towards implementing the Sendai Framework's ideas with the establishment of institutions, organizations, and DRR policy and legislative frameworks (Van Niekerk et al., 2020). This was engendered when SADC countries collectively recognised the importance of DRR and its potential to reduce the impacts of disasters on vulnerable populations. By establishing the necessary institutions, organizations, and policies, SADC countries are taking the first steps towards achieving the goals of the framework. To ensure that these plans are successful, SADC countries must now focus on implementing them in a timely and effective manner.

Since 2005, many member states (MSs) in the SADC region have reviewed their national plans, policies, and laws regarding civil protection, emergency management, and disaster management to align them with the Hyogo Framework for Action 2005-2015 (HFA) and the SFDRR (SADC, 2018). In doing so, they have committed to integrating the principles of the HFA and SFDRR into their national strategies, planning, and implementation of DRR measures.

The Global Assessment Report on Disaster Risk Reduction of 2019 (UNDRR, 2019) emphatically places responsibility for designing and putting these strategies into action on the MSs that endorsed the SFDRR. This is because the SFDRR was designed to help countries reduce the risk of disasters, while the MSs that endorsed it committed to taking the necessary steps to implement it. Additionally, the United Nations Office for Disaster Risk Reduction (UNDRR) produced a Global Assessment Report on Disaster Risk Reduction (2019) which recognizes that these states can lead the way in terms of DRR.

MSs now have a general guideline for reporting DRR progress thanks to the SFDRR's specifically designed targets. Even though the Sendai Framework Monitor is not yet widely used in the region, numerous nations have begun to report progress towards its various goals. The Sendai Framework Monitor is a tool that helps countries measure and report on their DRR efforts. It provides a detailed set of indicators that countries can use to track their progress and compare it to global standards. By disposing of a clear set of indicators, countries can have an enhanced understanding of their progress and take steps to improve their performance (UNDRR, 2015).

The present study focuses on the SADC MSs that have complied with the SFDRR's Target E implementation. The SFDRR 2015-2030, adopted by UN Member States in 2015, identifies Target E 'to substantially increase the number of countries with national and local disaster risk reduction (DRR) strategies by 2020' (UNDRR, 2020). According to the Global Assessment Report on Disaster Risk Reduction (GAR, 2019) the Target E of the SFDRR speaks plainly about "national and local disaster risk reduction strategies," but the indicators that will measure this target are more difficult to quantify. This is because risk reduction strategies can be both structural and non-structural, meaning they can include a variety of different actions by individuals, communities, and governments, making it difficult to measure their effectiveness. To measure these strategies, it's important to have qualitative and quantitative data that can be used to assess the progress with Target E of the SFDRR. This includes data on the number of people affected by disasters, the amount of money spent on disaster risk reduction, and the number of people taking part in risk reduction activities.

As indicated in the GAR, 2019, indicator E-1 requires national strategies to align with the SFDRR, and local strategies to align with national strategies (UNDRR, 2019). This means that national strategies must set out the objectives for disaster risk reduction, and local strategies must then reflect those objectives. To ensure the successful implementation of indicator E-1, national and local strategies need to be properly interlinked; the national strategies must form the basis of the objectives for disaster risk reduction and the objectives of the local strategies must be in line with those of the national strategies. Besides indicators E-1 and E-2 of Target E, the SFDRR has an indicator E-2 that focuses on local strategies. It requires countries to report on the proportion of their local governments that have local DRR strategies (UNDRR, 2019). This indicator seeks to assess the effectiveness of strategies and measures taken at local levels and their contribution to the overall resilience of the community.

The SFDRR required that Target E be completed by 2020 to serve as a guide for the implementation of additional DRR activities that can aid in risk reduction and resilience building. The study seeks to evaluate the progress of Target E of the SFDRR in SADC, which outlines the necessary steps to be taken to ensure the development and implementation of effective DRR

strategies by 2020. Furthermore, the study will identify areas where additional efforts are needed and provide recommendations on how to improve existing DRR strategies.

To this end, it will explore successes and opportunities towards overcoming challenges to help the SADC region to reach the ambitious target set out by the SFDRR. However, it is important to note that the study will have limitations. It will only be able to provide recommendations based on information gathered from the MSs, while some of these may not be forthcoming with information, which could lead to inaccurate or incomplete recommendations.

1.2 Problem statement

Developing Disaster Risk Reduction (DRR) plans and strategies at the national and local levels by 2020 is a dedicated target of SFDRR under Target E (UNDRR, 2018a). This will help countries to identify, assess and prioritize disaster risks, and develop and implement plans and strategies for disaster risk reduction. This will result in more resilient and sustainable communities. By emphasizing this target, SFDRR is aiming to create a strong foundation for disaster risk reduction, helping countries to be better prepared to face any eventuality. According to United Nations, the Status Report on Target E Implementation, 2020 reported that there are challenges faced by governments that slowed down the development of DRR strategies at national and local levels since the adoption of the SFDRR (UNDRR, 2020). One of the most recent challenges was the COVID-19 pandemic, which significantly impacted the development, formalization, and adoption of national DRR strategies. The pandemic caused an economic slowdown, leading to a decrease in government funding and resources for DRR strategies. On the one hand, the pandemic provided a unique opportunity for critical reflection on progress achieved in the implementation of global development strategies (Zehra Zaidi & Fordham, 2021). It also shifted the focus of governments and organizations away from DRR and towards addressing the immediate needs of the pandemic.

Additionally, progress towards achieving Target E should include specific consideration of how to devise and deliver local strategies in contexts affected by different hazards such as droughts, wildfires and floods in the SADC region. According to UNDRR (2017), Target E of the SFDRR has also been reflected in two Sustainable Development Goals indicators.

- i. number of countries that adopt and implement national DRR strategies in line with the SFDRR and;

These indicators can be used to measure progress toward achieving Target E of the SFDRR and improving disaster risk reduction.

It is also important to address the issue of obtaining, collecting, analyzing, and managing disaster risk and climate data at various scales to support the government's decision-making process for risk-informed development and to meet its reporting commitments regarding SFDRR global targets and Target E (UNDRR, 2020). A comparison of the two results reveals on the United Nations Statistics database and Sendai Framework Monitoring databases, there are data inconsistencies and a comparison of SADC region reporting about Target E (Khoza et al., 2022).

This data is critical for understanding the impact of disasters and climate change on economic, social, health, and environmental impacts. It is also necessary for the SADC governments to develop effective policies and actions to reduce disaster risk and build resilience. Additionally, this data is essential for monitoring progress towards the SFDRR global targets and measuring the impact of interventions and investments. According to Status Report on Target E Implementation National and Local DRR Strategies 2020, progress towards the achievement of Target E of the SFDRR represents an opportunity for governments to revisit disaster risk reduction strategies (UNDRR, 2020). Many disasters can be prevented or mitigated through effective disaster risk reduction strategies.

To achieve all other goals and achieve risk-informed development and resilience by 2030, countries must first achieve Target E of the SFDRR. Target E of the SFDRR prompts a review of existing DRR strategies and determines whether current strategies comply with the SFDRR and other international treaties (UNDP, 2014). Through the review process, countries will be able to identify gaps in their current strategies and develop new plans to fill these. This will ensure that the strategies are compliant with the SFDRR and other international agreements and will help ensure that countries will achieve their other goals and build resilience by 2030. For instance, countries currently lacking a comprehensive strategy for early warning systems could use this review process to develop a plan to establish one to better prepare for future disasters (SADC, 2018).

Reducing disaster risk in SADC remains a work in progress. To meet these obligations, the SFDRR and national commitments, as well as local and national DRR strategies, must be achieved (Peters, 2018). To ensure the success of the SFDRR and national commitments, governments and other stakeholders need to focus on developing, implementing, and monitoring comprehensive DRR strategies at the local and national levels.

DRR strategies emphasize the need for a comprehensive, coordinated, and integrated approach to the latter. However, some argue that this approach is not comprehensive enough. They argue that addressing disaster risk has never been and will never be solely restricted to technical experience, knowledge, research, and evidence (Twigg, 2015). To address this question, it is

necessary to establish why some individuals are more susceptible to disasters than others. However, it is also important to consider that some people are more resilient to disasters than others. This could be due to a variety of factors, such as access to resources, social support, or prior experience.

This involves dealing with questions of power and politics. Those with less access to resources and less political power are often the ones who are most affected by disasters. This is because they are unable to protect themselves adequately or are not given the same importance as those with more wealth and power. While it is certainly important to consider the question as to why some people are more susceptible to disasters than others, it is also important to remember that everyone is susceptible to these in some way. No one is immune to the effects of disasters and even the wealthiest and most powerful people can be affected. Therefore, it is important to consider how to protect everyone, regardless of their wealth or power status.

African nations have advanced DRR under the HFA for DRR 2005-2015 over the last ten years (UNDRR, 2015). The Africa Regional Strategy for Disaster Risk Reduction (ARSDRR), according to the two Biennial Reports of the African Union and SADC, has served as the continent's primary framework for DRR (African Union Commission, 2018; SADC, 2018). In addition, the African Union Commission (AUC) and SADC have played active roles centred on promoting and implementing the ARSDRR. For instance, SADC has established a Regional Early Warning System and Climate Services (REWS/CS) to support the implementation of the ARSDRR (African Union Commission, 2018, SADC, 2018). The strategies are developed to prevent new disaster risks, reduce existing disaster risks, and manage residual hazards to contribute to the strengthening of resilience and the reduction of disaster losses (UN, 2016).

Problematically, however, far too little focus has been placed on how plans and policies are put into action at all levels of government (UNDRR, 2019). It is important to note that, although DRR strategies are in place in many SADC countries, there is still a lack of focus on how these plans and policies can be implemented effectively, as has been reported also to the SFM (Khoza et al., 2022). For example, in the SADC region, some countries have a national disaster management centre responsible for implementing DRR policies but lack the resources to do so adequately (SADC, 2018).

According to Staal (2015), Hyogo Framework for Action 2010-2015 implementation and the SFDRR suggests that reaching Target E of the SFDRR, notably the attainment of local DRR strategies, will require focused action on DRR-affected settings. As such, local DRR strategies will need to be tailored to the local context and the affected population's risk and vulnerability to

effectively reduce risks, build resilience, and avoid future disasters. However, this does not mean that DRR strategies cannot be effective in other settings.

DRR strategies can be effective in any setting as long as they are tailored to the local context and the affected population's risk and vulnerability (UNDRR, 2020). This can be accomplished by a combination of policy, legal, and financial actions. DRR centres on the strategies and actions taken to minimize the exposure and vulnerability of people and communities to natural hazards.

By 2020, Target E specifically called for a significant rise in the number of nations with national and local DRR policies (UNDRR, 2015). These policies had to be tailored to local contexts and had to align with the SFDRR (2015-2030). However, many countries could not develop and implement such policies. In addition, even if policies had been developed, they might not be effective if they were not tailored to local contexts and did not align with the SFDRR.

According to UNISDR (2018), Target E has the following two global indicators:

- i. The number of countries that adopt and implement national DRR strategies in line with the SFDRR.
- ii. The percentage of local governments that adopt and implement local strategies in line with national strategies.

In the new global SFDRR, national and local issues have taken centre stage in terms of DRR strategies that are crucial for putting into practice and keeping track of a country's risk reduction priorities (UNDRR, 2019). UNDRR (2019) revealed that collaborating with local, national, and regional organizations aided towards the developing and updating of DRR strategies and monitoring their implementation. This collaboration ensured that all stakeholders had their voices heard and that their perspectives were considered when making decisions about DRR. It also provided a platform for knowledge-sharing, which was essential for successfully implementing strategies.

In conclusion, countries need to address the issues that have slowed down the implementation of DRR strategies since the adoption of the SFDRR (UNDRR, 2020). Since the present study examined the progress that SADC had made towards implementing Target E of the SFDRR, this finding is especially pertinent.

1.3 Central theoretical statement

The SADC MSs need to update the existing DRR strategies and plans and revise them based on changing conditions and hazard information (UNDRR, 2018b).

SADC MSs have DRR strategies in place, and these are aligned with the existing framework of the HFA 2005-2015. Van Niekerk et al. (2020) and Khoza et al. (2022) note that improved reporting of UN Statistics data and alignment with Target E is needed. This is because many countries are not providing the necessary information on DRR, which prevents the full implementation of target E of the SFDRR. Furthermore, it is difficult to compare data from different countries as their formats and definitions vary. Therefore, improved reporting and alignment are needed to accurately measure the progress of DRR globally.

1.4 Methodological assumptions

The study's methodology should be clearly articulated to provide a valid basis for understanding the results. This includes describing the population, sample size, and any variables that were measured or manipulated. It should also explain the research design, data collection methods, and data analysis techniques used. The research design should focus on the research question, the data collection methods should be appropriate for the type of data being collected, and the data analysis techniques should be appropriate for the type of data being analysed.

1.5 Research Aim and Objectives

The major aim of this study was to evaluate progress in the implementation of Target E of the SFDRR by SADC. Whilst the objectives of the study are :

- i. To provide theoretical perspectives on Target E for SFDRR adopted by SADC MSs.
- ii. To evaluate achievements in the implementation of Target E for SFDRR by the SADC MSs.
- iii. To identify challenges that hinder the progress of implementing Target E for SFDRR by SADC MSs.
- iv. To make recommendations to SADC MSs based on the findings of the evaluation.

1.6 Research methodology

According to Rajasekar et al. (2013), research methodology systematically solves a problem to provide a work plan for a specific study. While a variety of definitions of the term “research methodology” have been suggested, this study uses the definition proposed by Rajasekar et al. (2013), who define it as the exact procedure followed by a researcher to achieve their desired research goals. Some authors agree that the research methodology is the researcher’s general approach to carrying out the research project (Babbie & Mouton, 2001). Both qualitative and quantitative methods were used in this investigation.

Mouton (2001:56) views research methodology as focusing on the research process and the kind of tools and procedures to be used. The methodology would be determined by the specific task (data collection) at hand, the research process steps, and the most objective procedures. The research process steps involve designing the research, formulating a research problem, gathering data, analyzing data, and drawing conclusions.

The approach taken in this study is a mixed methodology where both approaches are used concurrently (Hesse-Biber, 2016). The study's research problem calls for answers beyond simple numbers in a quantitative sense, employing instead words in a qualitative sense (Creswell et al., 2011:21). A combination of quantitative and qualitative approaches provides the most complete analysis of a problem because qualitative research design alone was deemed to be insufficient.

1.7 Literature review

Several primary and secondary literature resources were reviewed to gather information for the theoretical overview of the framework as expounded in Chapter 2. Key concepts and theories related to the research topic were therefore identified and critically analysed providing a comprehensive overview of the current literature and allowing for the development of the theoretical framework used in the study. According to Shuttleworth (2013), the literature review is a critical and in-depth evaluation of relevant existing research. Moreover, the literature review is a survey of research and other sources relevant to a particular issue and area of research. (Ramadhan et al. (2014) described a literature review as the process which provides an overview of sources explored while researching a particular topic; it demonstrates how the research fits into the larger field of study.

To ascertain the most recent developments in the implementation of Target E for SFDRR, information gleaned from scientific articles, research, and countries was used as primary data (Van Niekerk et al., 2020). This data is used to identify and analyse the strategies, successes, and challenges that have been experienced in the implementation of Target E for SFDRR. This helps inform future strategies and policies that can be implemented to improve the progress towards the target.

According to Webster & Watson (2002:8), a good literature review lays a solid foundation for knowledge and facilitates theory development. It helps identify gaps in the existing research and provides a basis for further research. It can also help provide insights into the current state of knowledge on a topic and can provide a framework for new research. Therefore, a well-constructed literature review can be invaluable for deepening our understanding of a topic providing a context for new research and highlighting areas for further study.

1.8. Empirical study

An empirical investigation was undertaken by using mixed methods. This facilitated the collection of both quantitative and qualitative data to explore the research questions in depth. This type of research provides a comprehensive understanding of the subject and allows for a more holistic view of the results.

The empirical investigation, according to Isaac and Michael (1997:2), is a planned process of systematic, purposeful, and accountable data collection and analysis. It is a comprehensive process that includes the development of research questions, the collection of relevant data, the analysis and interpretation of that data, and the formulation of conclusions and recommendations.

This method validates and ensures the reliability of the results, which may then be used to address the research issue. This approach also allows researchers to detect any potential biases in the data or other elements that can influence the research outcomes. By validating their results, researchers can compare their findings to existing literature and theories to ensure that the results are accurate and trustworthy. Additionally, by validating the data, they can ensure that any potential sources of bias have been addressed and that the results are reliable.

1.9 Research design

A research design focuses on the end product and all the steps in the process to achieve that outcome. According to Bergman, (2008), the advantage of using mixed methods research design is that the investigation of a certain domain of social reality can be compared with the examination of a physical object from two different viewpoints or angles. The research design is applied so that suitable research methods are used to ensure the attainment of the aim and objectives set out in chapter one.

Sampling refers to the selection of a subset of persons or things from a larger population, also known as a sampling frame (Scott & Morrison, 2007:219). The sample size of this study is significantly small since it focuses specifically on Target E of the SFDRR in the SADC MSs. There were 5 individuals' responses to the questions. A non-probability sampling procedure (Scholtz, 2021) was used for the selection of knowledgeable and experienced individuals. For this reason, a purposive sample was used to select DRR strategies or plans expected from SADC MSs. The purposive sampling technique, also called judgment sampling, is the deliberate choice of an informant due to the qualities the informant possesses (Bernard, 2002).

The participants in this research phase were purposefully selected based on their involvement in the development and implementation of DRR strategies in their countries. Lastly, the main goal

of purposive sampling is to focus on the particular characteristics of a population under study to answer the research questions.

Data collection is a way of gathering data by using various means such as participatory observation, interviews, and questionnaires. The researcher used both primary and secondary sources of data to gather the necessary data; this included questionnaires and semi-structured interviews. Key informants included representatives from SADC MSs and the SADC DRR Unit.

The interview is a social relationship designed to exchange information between the participant and the researcher. Interviewing as a data-gathering method was used to clarify vague statements and permit exploration of topics of the DRR. The interviews can yield rich material unobtainable in any other way, while it can support or be supported by other data from questionnaires and standardized test responses.

Research objectives for this study guided the structure of the interview. The research objectives determined the types of questions asked and their order to ensure that all of the necessary information was gathered in a systematic procedure

To ensure that the responses were recorded, a virtual digital voice recorder was used to record the responses of the participants. All the interviews took place on a virtual online platform. A copy of the interview schedule and the contact detail including the email address of the researcher was provided to each interviewee for possible future inquiries.

1.10 Questionnaires

This section of the questionnaire required respondents to give information on Target E of the SFDRR strategies in their countries. The study used a mixed-method data analysis approach to interpret and present the data collected from semi-structured interviews and questionnaires. Content and contextual analysis methods were used to analyse data from interviews and literature reviews. The questionnaire was designed to be completed anonymously by the respondents. An email was sent for the attention of each respondent and the questionnaire was attached.

For this study, a questionnaire was constructed in alignment with the literature overview, the theoretical framework, open-ended questions (qualitative research) and the research aim. The questionnaire items were developed to include responses of general information and responses about the views and experience in DRR strategies in the SADC MSs. The format of the questionnaire was developed to have a professional appearance with a clear, neat, and easy-to-follow layout by respondents.

Many researchers regard a questionnaire as a way to collect data in survey research that contains recorded questions that people respond to directly on the questionnaire form itself, without the aid of an interviewer (Monette et al.,2011:164). Primary data are most commonly collected through questionnaires (Sileyew, 2019). Questionnaires are popular because they provide a structured way to collect data from a large sample of people. They also allow the researcher to ensure that the same questions are answered by each participant and make it easy to compare responses.

The advantage of a questionnaire is that it facilitates the collection of vast amounts of data with minimal effort. Additionally, the availability of some participants in one place enables the economy of time and expense and provides a high proportion of usable responses.

However, the disadvantage is that the ease of production and distribution can result in the collection of far more data than can be effectively used. Lack of personal contact (if the questionnaire is mailed) may mean that response rates suffer necessitating the expense of follow-up letters, telephone calls, and other means of chasing the participants (Wilkinson & Birmingham, 2003:39; Muijs, 2011:38 &39). Finally, the possibility of biases in information is high because it includes different people, especially if they are not sure about how to respond (Leshope, 2016).

1.11 Data analysis

This facilitated the extraction of relevant information from the data that could be further examined for patterns and trends. It also made it possible to identify relationships among different factors towards the overall outcome of the research. According to Babbie (2012), content analysis focuses on the content of communication, such as interviews of the DRR strategies. Data analysis in mixed methods research consists of analysing the qualitative data using the qualitative method and the quantitative data using the quantitative method. The study collected data through semi-structured interviews, and questionnaires were used in analyses to formulate facts about Target E of the SFDRR implementation by SADC MSs.

After reading the body of literature relevant to this study, the main ideas were summarised (see Chipangura, 2019). This was followed by the development of themes and subthemes. The process of analysing data involved several steps which are as follows: organizing data, coding data, organizing themes, representing data, and overall forming an interpretation (Creswell, 2014).

1.12 Validity and Triangulation

Validity is the primary concern of all researchers who gather data information. It is the most important quality of a measured dependent variable. Johnson (2014:57) states that the goal of examining research validity, especially around the mixed-method approach, is to make justified qualitative, quantitative, and integrated claims. A further explanation is given by Creswell (2014), who states that, in mixed methods design, the validity of both qualitative and quantitative data should be upheld in collection, analysis, and interpretation.

It is important when it comes to the qualitative data, whose analysis and findings were in turn used for the development of quantitative tools (Khoza, 2020). Hence, the study employed mixed methods (interviews, questionnaires, and literature study) to gather and analyse data to ensure reliability and validity, as indicated.

1.13 Ethical considerations

This study upheld ethical standards. All participants were guaranteed confidentiality. No intimidation of participants in the research was done. It was also emphasised that their participation was voluntary, based on the information given to them about SFDRR (Mutasa, 2016). It was emphasised that it was their legal right to withdraw and not participate if they so wished. The study guarded against any manipulation of the data gathered. According to Bryman, (2012:142), deception occurs when researchers represent their work as something other than it is. The procedures of this study were approved by the Faculty of Natural and Agricultural Sciences Ethics Committee under number: **N W U - 00 5 7 0 - 2 1 - A 9**.

1.14 Limitations of the Study

Matters and occurrences that arise in a study and are outside the researcher's control are viewed as limitations. For example, the respondents might not always have been honest due to the fear that their superiors might read the study and their candid responses might cost them their jobs (see Leshope, 2016). Other participants had the fear that governments failed to develop and implement their DRR strategies in countries based on the agreement with the SFDRR.

The findings of the study may not apply to larger populations due to the small sample size used. Additionally, the results of the study may be limited by the study design and methodology used. Consequently, the conclusions of the study should be interpreted cautiously and with an understanding of its limitations. However, the study's findings could still be useful for organizations with similar characteristics to the ones studied. Additionally, the study's findings could be used to generate hypotheses for future research.

1.15 Significance of the study

DRR is advocated for by African countries. Hence, the African and SADC countries, under the leadership of the Africa Union (AU), identified five additional targets that are needed for African states to realize the ideals of the SFDRR. The Programme of Action for the Implementation of the SFDRR 2015–2030 in Africa (PoA) was adopted (AUC, 2016). Further, almost all the SADC MSs have DRR strategies or plans in place. The findings of this study will help make the governments understand the need to have DRR strategies or plans in place and also implement them, making funding and resources available to this end.

1.16 Chapter Layout of the Study

The layout of the study is designed to provide readers with a comprehensive overview of the topic. It begins with an introduction and a brief overview of the research question. It then breaks down the various components of the study into individual chapters, each focusing on a different aspect of the research. This structure allows readers to quickly find the information they are looking for without needing to read through the entire document.

The dissertation follows the outline itemised and briefly discussed below.

Chapter 1

This is the introductory chapter that offers background and a discussion of methodology. It consists of the problem statement, research questions, research objectives, and the research methodology. It provides the foundation for the study and serves to orient readers to the context and methodology of the research. It serves to provide readers with a comprehensive overview of the research and familiarize them with the research process. It will explain the research approach and how it was used to investigate the research questions. Lastly, it describes the data analysis techniques used and an outline of any ethical considerations or limitations of the study.

Chapter 2: Theoretical Perspectives on Target E of the SFDRR

Theoretical perspectives on Target E of the implementation of the SFDRR in SADC MSs are offered in this chapter. It includes the literature review. The latter examines the existing research and evidence on the implementation of the Sendai Framework in SADC MSs. It looks at the different theoretical perspectives that have been used to explain the implementation of DRR strategies, including the socio-ecological systems framework and resilience theory. It also looks at the different strategies and policies that have been developed and implemented in the region as well as the challenges and successes centred on the existing approaches.

Chapter 3: Research Methodology

This chapter will define the research methodology applied in this research as well as summarize the research questions and objectives. The research methodology presented in this chapter is based on primary and secondary sources and will provide a clear direction for the research to follow. The primary sources of data will be interviews, while secondary sources will include books, journals, and other published works on DRR strategies. The research questions and objectives will be determined by the data collected from primary and secondary sources. This data will be analysed to answer the research questions and test the hypotheses formulated within the research.

Chapter 4: Empirical findings

The empirical findings of the study were based on the data collected and analysed, which included interviews, surveys, and research methods. These findings were then used to draw conclusions and make recommendations on the topic being studied. By applying a careful and comprehensive analysis to the data collected, the empirical findings of the study provided significant insights into the topic engendering informed conclusions to be drawn and effective recommendations to be made.

Chapter 5: Conclusion and recommendations

This is the conclusive chapter of this study. It provides a summative background and proposes recommendations for further study in the research area. It draws on the findings of the preceding chapters, as well as on wider research, to provide a comprehensive overview of the research area. It then outlines potential future directions for investigation considering the limitations of the current study and the opportunities for future research. To this end, this chapter presents a detailed overview of the research area as well as a range of suggested pathways for further investigation

CHAPTER 2: THEORETICAL PERSPECTIVES ON TARGET E FOR SENDAI FRAMEWORK DISASTER RISK REDUCTION ADOPTED BY SOUTHERN AFRICAN DEVELOPMENT COUNTRIES' MEMBER STATES

2.1 Introduction

The year 2015 was a crucial year for the adoption of the SFDRR (SFDRR 2015-2030)(UNDRR, 2015). The SFDRR talks took place in Sendai, Japan, in March 2015. Over the next 15 years, it plotted the worldwide route for DRR issues (UNDRR, 2019). The SFDRR indicated a clear transition from mitigating disaster impacts and reducing risks that cause disasters (UNDRR, 2015), involving a transition from reaction to prevention, (Mizutori, 2020). The SFDRR introduced seven global targets to assess global progress towards the expected outcomes: four of these focused on reducing loss and damages from disasters and three on ensuring effective processes for doing so (UNDRR, 2020).

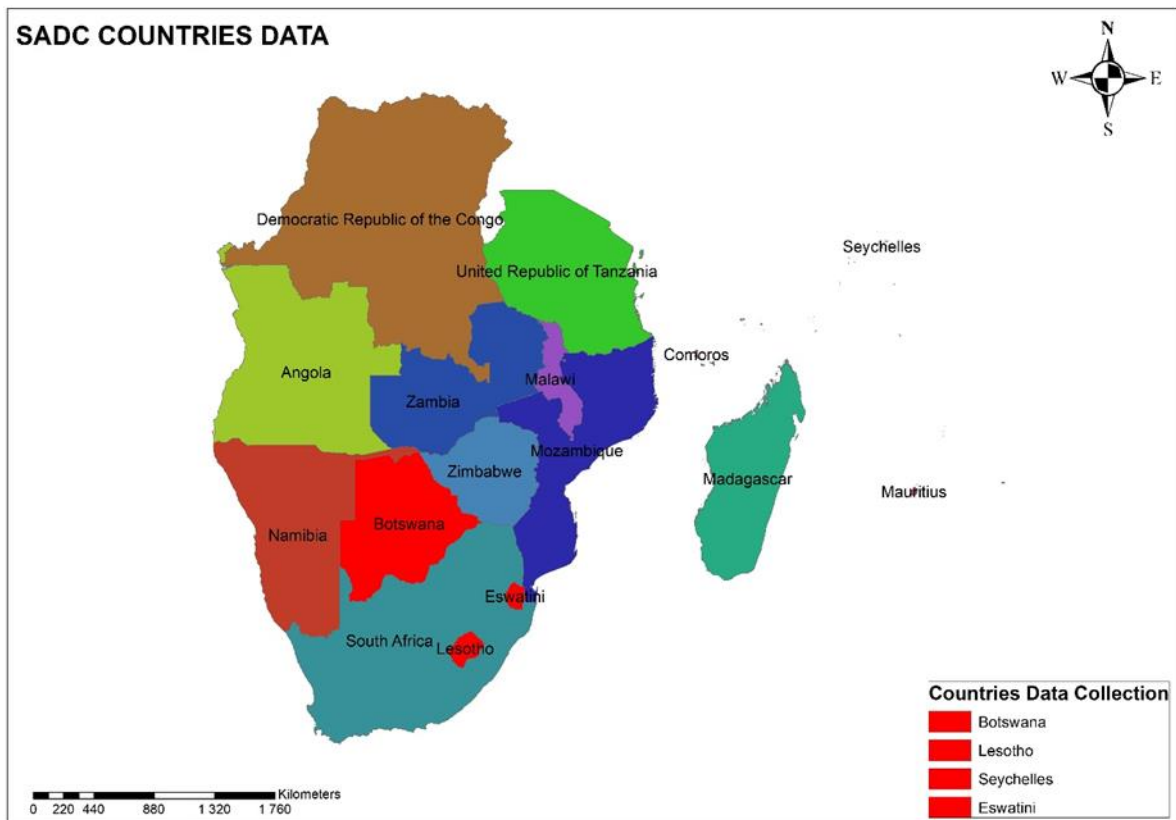
To measure global progress in the implementation of the SFDRR, a set of indicators was developed by the Open-Ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction (OIEWG) on indicators and terminology relating to DRR, as established by the United Nations General Assembly Resolution 69/284 in June 2015. Unlike the other six targets of the SFDRR, MSs agreed to achieve Target E by 2020 instead of 2030, given that it constitutes an indispensable foundation for guiding the overall implementation of the framework (UNDRR, 2020).

Target E of the SFDRR states that "by 2020, considerably more nations will have national and local disaster risk reduction programs" (UNDRR, 2015). Additionally, to serve as a benchmark for future DRR initiatives that can help reduce risks and build resilience, the UNDRR stipulated that Target E had to be accomplished by 2020. MSs are required to evaluate how well their DRR strategies are aligned by using the Sendai Framework Monitoring (SFM) system (UNDRR, 2020).

The present chapter embodies the literature review of SFDRR- 2015–2030 and Target E of the SFDRR. The chapter outlines the importance of DRR strategies among the SADC MSs. This follows a discussion of the availability of DRR strategies per MS. The concluding part of the chapter involves differentiating between DesInventar and EM-DAT data systems. The various aspects are detailed in a second chapter devoted to the literature review, Chapter 3. The present chapter provides an overview of the current research on the topic and highlights the main points found within it. It also outlines the methodology that was used to evaluate the literature and analyse the data. The map below shows the SADC countries and the 4 countries where data was collected are marked red colour.

Figure 2.1 SADC Map

A map below shows the SADC region, while the four countries where data was collected are highlighted in red. The map is useful for understanding where the study took place and how the SADC countries are geographically related to one another. The highlighted countries can also be used to compare and contrast the data that was collected. Furthermore, the highlighted countries can be used to compare and contrast the data collected, providing an invaluable visual aid for understanding the results of the study.



Source: Map of SADC Countries data collected 2022

2.2 Literature review process

A literature review was employed. This involved an assessment of academic journals, policy documents, and other online sources that are related to DRR topics. This was done to identify the publications which were regarded to centre on DRR tactics. Furthermore, the literature review was used to collect the necessary information to analyse the publications and determine if they were true to be regarded as centring on DRR tactics. A considerable body of literature has been written about the Words into Action guidelines (UNDRR, 2019) series, which strives to provide universal access to knowledge, communities of practice, and networks of DRR practitioners. These studies provide useful instructions for putting together an SFDRR approach that will work.

The year 2015 saw the emergence of the first in-depth debates and studies on Target E of the SFDRR. Promoting a thorough awareness of the primary problems, challenges, and tactics for finding solutions, resources, and elements of effective planning (UNDRR, 2019).

These recommendations are based on the knowledge gained from the experiences of many nations around implementing the HFA and integrating their national DRR plans with the SFDRR 2015-2030. The linked indicators at the national and municipal levels were designated as Target E of the SFDRR by the Open-ended Intergovernmental Expert Working Group on indicators and terminology relating to DRR (UNDRR, 2020).

The status of countries' progress towards this aim is outlined in the UN Office for DRR's (UNDRR, 2020) status report on Target E of the SFDRR implementation. This study details the advancements made by MSs between 2015 and 2019. The report expands on self-evaluations, data descriptions, and the report's goal, which were all submitted by MS governments to the SFM as of August 21, 2020. This study emphasizes a series of difficulties encountered by governments that have impeded the creation of drug policies at the national and local levels after the introduction of the SFDRR (UNDRR, 2020). Given this, the report outlines several crucial suggestions to governments and stakeholders to assist them in accelerating efforts to attain Target E of the SFDRR.

Implementation of the SFDRR 2015-2030 in Africa was covered in the Biennial Report on the Programme of Action (AUC, 2019). The report seeks to provide a thorough analysis of the SFDRR 2015–2030 and the African strategy for DRR implementation of the PoA. A growing body of literature on the SFDRR has emerged in recent years (Manyane, 2016; Van Niekerk et al., 2020; Nyandiko, 2022). These studies show that putting DRR measures into action is crucial. According to the research, many nations, particularly those on the African continent, are failing to put their DRR strategic plans into practice.

Investigations were also conducted into the 2015 DRR report by the UNISDR Scientific and Technical Advisory Group (STAG) (Aitsi-Selmi et al., 2015). The MSs argued that stronger connections between these areas would increase the availability of resources and expertise leading to an increased capacity to develop and apply new technologies, ideas, and strategies. Furthermore, they suggested that this could create an environment that is more conducive to innovation and creativity.

The Global Assessment Report on Disaster Risk Reduction (UNDRR, 2019) contains significant information regarding SFDRR. It highlights the importance of risk-sensitive development, the need to strengthen resilience, and the urgency of risk reduction to prevent and reduce the impact

of natural hazards. The report also highlights the need to strengthen the implementation of the SFDRR. Furthermore, the GAR (2019) provides concrete recommendations for governments and other stakeholders to strengthen their implementation of the SFDRR through the development of risk-sensitive policies and building resilience. After the approval of the UN 2015-2030, this study was published. The publication analyses the effects of the Sustainable Development Goals (SDGs) on the global economy and discusses that the newly approved SDGs will be important towards achieving global economic growth.

The SFDRR's results, aims, targets, and priorities, as well as the SDGs for disasters (UNDRR, 2015), were updated in the GAR, 2018. The latter is a comprehensive report issued by the United Nations Office for Disaster Risk Reduction (UNDRR) that provides an overview of the latest trends and developments in the field of DRR. It includes the SFDRR's results, aims, targets and priorities, along with the Sustainable Development Goals for Disasters (SDG, 2015). The GAR, 2019 provides an invaluable source of information on how the international community is progressing in terms of its collective mission to reduce the risks and impacts of disasters, while it helps set goals and priorities for future DRR efforts. It also looks at how risk science is changing, looks for opportunities for more research, and looks into several different aspects of understanding and controlling systemic risk (UNDRR, 2019). By exploring the latest risk science and examining potential areas of research, UNDRR (2019) hopes to gain a better understanding and control of systemic risk. The SFDRR's main features are discussed in this section, along with the advantages of the global agreement over the SADC. The SFDRR focuses on the importance of cooperation for disaster management, DRR, resilience-building, and the implementation of specific strategies and measures. It also aims to strengthen regional coordination of disaster response and risk reduction initiatives and promote the exchange of knowledge and best practices.

2.3 Using the Sendai Framework to reduce disaster risk in Southern Africa

The SFDRR is a global agreement that focuses on risk reduction and is based on the four priorities of understanding disaster risk, strengthening disaster risk governance, investing in DRR for resilience, and enhancing disaster preparedness for effective response. This agreement provides an enhanced focus on risk reduction and resilience, which is not present in the management mechanism (UNDRR, 2015).

The UNDR is in charge of putting this 15-year international agreement into action, monitoring it, and conducting an evaluation of its progress (UNDRR, 2015). To ensure the successful implementation of the agreement, UNDR is tasked with overseeing its progress and conducting periodic reviews. As noted, the MSs of SADC signed the SFDRR. SADC is committed by this to

implementing DRR strategies and building resilient societies to better cope with disasters that may occur in the future. To ensure that this commitment to DRR is kept, SADC and other African countries have established five additional goals that must be met for them to fully implement the SFDRR under the direction of the African Union Commission (AUC, 2016).

According to Africa Union Commission (AUC,2016), the Plan of Action (PoA) was approved in 2016 by African countries for the implementation of the SFDRR in Africa. The PoA aims to reduce the risk of disasters in Africa and promote the resilience of African nations in the face of disasters. It focuses on building the capacity to prepare for, mitigate, and respond to disasters, as well as to manage the consequences of disasters. The PoA also promotes the implementation of the SFDRR, which is a framework for action to reduce the loss of life and economic damage caused by disasters (AUC, 2016; Van Niekerk et al., 2020).

The SFDRR promotes governments to develop and put into action local and national DRR strategies according to the UNDRR (2019). This is done by providing technical assistance and financial support to countries as well as by raising awareness and building capacity for DRR at the local and national levels. Additionally, the SFDRR encourages governments to integrate DRR into their development plans and national budgets.

The number of governments having DRR strategies is used to gauge its development. DRR strategy in place shows that the government is taking proactive steps to reduce the risk of disasters, which is a sign of development (SADC, 2018). It indicates SADC countries are ticking a box and subsequently doing nothing which is the reality in many countries in SADC. This is due to a lack of commitment to implement policies or to monitor their implementation. This is also exacerbated by a lack of resources and capacity in many SADC countries (UNDRR, 2018). As a result, these countries are unable to effectively address the numerous challenges they face, leading to a cycle of stagnation that limits the potential of the entire region. Having a DRR strategy is also an indicator that the government is taking the needs of its citizens into account (UNDRR, 2019). This demonstrates that the government is committed to protecting its population from the risks associated with disaster risks.

The SFDRR builds upon the core tenets and ideas of the HFA 2005-2015 as well as earlier initiatives such as the international framework of action for the international decade for natural disaster reduction of 1989, the Yokohama strategy for a safer world of 1994, and the International Strategy for disaster reduction of 1999 (UNISDR, 2005; UNDRR, 2015; Van Niekerk et al., 2020:1). The SFDRR is a comprehensive approach to DRR that guides countries, local authorities, and organizations in the implementation of DRR strategies through the adoption of policies, legislation. It emphasizes the need for building resilient communities and strengthening

national and local capacities. It also focuses on the need for risk-informed planning and investments as well as the need for early warning systems and multi-hazard approaches to risk management (UNDRR, 2015).

Within the 15 years foreseen, the following was to have occurred in terms of the SFDRR's stated outcomes:

- i. Substantial reduction of disaster risk and losses in lives, livelihoods, health, and the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries.
- ii. Prevention of new and reduction of existing disaster risks 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 (UNDRR, 2015).

The SFDRR serves as the global framework for DRR and resilience-building initiatives between 2015 and 2030. In terms of its four priority areas for action to avoid new and decrease existing disaster risks, it acknowledges and advocates for the importance of ecosystems and the environment as a cross-cutting concern (UNDRR, 2020). The SFDRR recognizes that ecosystems and the environment are important considerations when it comes to avoiding and reducing disaster risks and increasing resilience and sustainability. It proposes several actions to be taken to protect and conserve ecosystems, including reducing human-induced pressures on ecosystems, restoring degraded ecosystems, and investing in the conservation and management of ecosystems. The SFDRR has emphasised risk-sensitive development, which seeks to prevent and reduce new, emergent disaster risks (UNDRR, 2015b).

Everyone's concern for risk was made abundantly clear by the SFDRR framework. As a result, it is essential to include all stakeholders as well as state institutions within it. More authority must be granted to local governments and communities to reduce the likelihood of disaster. This can be accomplished by using the resources, rewards, and authority to make decisions in terms of the given circumstance (United Nations General Assembly, 2016a).

The new framework acknowledges, with a view to GAR (2019), that significant progress has been made around raising awareness, inspiring political commitment, and igniting action among a wider range of stakeholders. The framework recognizes that the various initiatives that have been implemented are beginning to have an impact, such as increased access to financial resources, improved policy and legal frameworks, and the adoption of more sustainable practices. In

addition, there is growing concern regarding how these risk factors can be addressed through preventative, curative, and compensating measures. The SFDRR outlines a comprehensive approach to effectively managing risk by addressing the underlying causes of disasters such as poverty and inequality.

According to Manyena (2016), the SFDRR offers a chance to manage ongoing and potential disaster risks as well as safeguard Africa's developmental benefits. The SFDRR is a comprehensive framework that helps identify and assess existing and potential risks, develop appropriate response plans, and allocate resources for risk management. It also helps promote sustainable development and poverty reduction. It has been shown in various studies that the SFDRR helps countries and regions understand the variety of dangers they face (Mysiak et al., 2016). Furthermore, this knowledge can be used to create effective strategies and actions to reduce these threats to safety, health, and security. For instance, since 2015, the frequency of disasters in the SADC region and their effects on the number of impacted individuals and economic losses have increased (Bello, 2021).

The SFDRR, in the opinion of Clarke et al. (2018), offers national governments the ability to enhance their capacity to manage disaster risk at all scales and across all sectors. This is because it offers a comprehensive framework for disaster risk management that covers all aspects of the disaster cycle, from prevention and mitigation to preparedness, response, and recovery. It also provides a mechanism for countries to track progress towards their disaster risk management goals over time.

According to Pearson and Pelling (2015), the SFDRR offers the potential for the creation of DRR policies at the regional and national levels. They argued that the SFDRR, by providing a comprehensive framework for DRR policies, could help bridge the gaps between local, regional, and global efforts and address the challenges of disasters more efficiently. By doing so, the SFDRR could help ensure that DRR policies are consistent and effective enabling nations to respond to disasters more effectively and ensure the safety of their citizens.

It provides comprehensive guidance to governments, other organizations, businesses, local governments, and educational institutions in their efforts to lessen the risk of disasters (Briceno, 2015). By providing information on how to identify potential hazards, develop strategies to mitigate their risk, and create systems to manage the impact of a disaster, the guidance helps ensure that organizations and individuals are better prepared to deal with the aftermath of a disaster. Furthermore, it emphasizes the importance of planning and implementing a resilient infrastructure and effective emergency management procedures to help communities, businesses, and

governments quickly and effectively respond when a disaster strikes and set targets in response to this.

The SFDRR has seven targets including reducing disaster mortality, reducing the number of affected people, reducing economic losses, reducing the damage and destruction of assets, managing the risks of disaster, strengthening resilience, and increasing adaptive capacity (UNDRR, 2015). It is important to note that these targets are interconnected and that achieving any one of them is dependent on achieving the others as well. For this reason, Target E of the SFDRR has to be achieved.

2.4 Targets of the SFDRR 2015-2030

To assess the effects of this framework, seven targets have been established (UNDRR, 2015). It is necessary to use the appropriate indicators and measurements to evaluate its effects from a global perspective. This will help to gauge the effectiveness of the SFDRR and determine whether any modifications need to be made to meet the desired objectives. It will also facilitate cross-cultural comparisons of progress and ensure that the framework has a positive impact on a global level. The targets to be discussed are as follows:

- i. Target A: substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rates in the decade 2020–2030 compared to the period of 2005–2015. There are many issues related to this target: determining which deaths are relevant and comprehensively attributable to disaster is complex. Alongside the direct impact of a hazard on health, there are many indirect pathways to mortality.
- ii. Target B: substantially reduce the number of affected global population by the year 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period of 2005–2015. Clarke et al. (2018) indicated that this target encompasses scenarios where cascading effects from hazards can develop into significant impacts.
- iii. target C: Reduce direct disaster economic loss concerning the global gross domestic product (GDP) by 2030. Some issue related to the estimation of economic losses is that the definition of global annual losses attributed to disasters omits the substantial losses in productivity and well-being which led to economic impacts (Clarke et al., 2018).
- iv. Target D: substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, by developing their resilience by 2030. UNDRR (2018b) stresses that definitions are key to consistency in reporting on target D. For example, countries have challenges around measuring disruption due to slow onset and small-scale disasters.

- v. Target E: substantially increase the number of countries with national and local DRR strategies by 2020 which is three years in the past. The focus should be on the implementation of DRR strategies by governments. Given that the legislative mandates vary among the MSs, the decision regarding the adoption and implementation of DRR strategies to be included in the calculation has been left to them.
- vi. Target F: substantially enhance international cooperation with developing countries through adequate and sustainable support to complement their national actions for implementation of this SFDRR by 2030. OEIWG (2016) states that the MSs of SADC raised some challenges, including separating DRR components from the overall number of resources.
- vii. Target G: substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to populations by 2030. As in the case of Target E, this target also has an element of subjective scoring based on the ranking of hazards and scoring of initiatives undertaken on issues related to early warning systems and risk information. This is necessary because there are different approaches to evaluating the effectiveness of early warning systems and risk information. Different organizations have different needs and objectives, and so subjective scoring allows for a more tailored approach to assessing the performance of a target.

In response to completing these objectives, the nations of Africa made a greater effort to establish additional objectives (Van Niekerk et al., 2020):

- i. Substantially increase the number of countries with DRR in their educational systems at all levels, as both stand-alone curricula and as integrated into different curricula.
- ii. Increase integration of DRR in regional and national sustainable development and climate change adaptation frameworks, mechanisms, and processes.
- iii. Substantially expand the scope and number of sources for domestic financing in DRR.
- iv. Increase the number of countries with risk-informed preparedness plans, response, and post-disaster recovery and reconstruction mechanisms, and periodically test these.
- v. Substantially increase the number of regional networks or partnerships for knowledge management and capacity development, including specialized regional centres and networks.

These objectives were designed to improve the capacity of African nations to respond to and manage natural disasters, as well as to reduce their vulnerability to such disasters. Additionally, the SFDRR aimed to ensure that African countries had the necessary resources and capabilities to manage the risks associated with climate change.

As custodian of the SFDRR, the UNDRR is responsible for monitoring its implementation at all levels of government by the United Nations General Assembly Resolution A/Res/69/832. All seven of the targets are reported by MSs with assistance from the UNDRR. The targets were monitored by UNDRR, which also devised a system for reporting on results (2022).

The aim clearly describes "national and local disaster risk reduction methods. Similar to Target E the SFDRR also includes a subjective scoring component based on the ranking of risks and scoring of initiatives made about early warning systems and risk information (UNDRR, 2018b). In terms of Target E of the SFDRR, likely, it will not be achieved because of the lack of implementation of national policies at both the national and the subnational levels, as well as the lack of funding support for implementation (Van Niekerk et al., 2020). Detailed information about Target E will be presented in the following section.

2.5 Target E of the Sendai Framework for disaster risk reduction

As compared with the other global targets, which are due by the end of the agreement in 2030, the deadline for this one is much tighter. The deadline of 2020 was set for DRR strategies and plans due to their significance as tools for reducing disaster risk and loss (UNDRR, 2018). According to UNDRR (2020), some countries failed to meet this due to inadequate resources, political commitment, and public engagement. The UNDRR assisted MSs in achieving this objective in addition to providing support for coordination. The UNDRR provided technical assistance in the form of guidance documents and capacity-building activities to support MSs in developing effective risk management and resilience-building plans (UNDRR, 2020). Additionally, the UNDRR coordinated and mobilized resources to help MSs in their efforts to meet the Target E of the SFDRR.

Through its global network of experts and regional offices, the UNDRR provided expertise and guidance to ensure success. The SFDRR recognises national and local platforms for DRR as significant contributors to the coordination of DRR strategies, plans, and activities (UNDRR, 2017). This means that national and local platforms are essential for the development of DRR strategies, plans, and activities that are tailored to the specific needs of each locality. The SFDRR also recognises that these platforms are important for successfully implementing DRR initiatives and achieving DRR goals. Therefore, these platforms are necessary to ensure that DRR strategies, plans, and activities are implemented effectively and in the local context.

The efforts of UNDRR and its partners emphasize the significance of subnational levels of activity (UNDRR, 2019). These levels of government are closer to the population and are better able to implement the necessary changes to reduce the risk of disasters. They also have better access

to resources, such as local knowledge and funding, that can be used to tackle the root causes of disasters. For instance, in some countries, local governments are responsible for the implementation of regulations related to land use and building standards, which can help reduce the risk of disasters.

According to UNDRR (2019), implementing Target E of the SFDRR will be made more accessible by providing helpful guidance through discussions and consultations. This will allow stakeholders to understand the target better and more easily implement it. Furthermore, the guidance will include information on potential actions and activities that can be taken to achieve the target, and how to measure the results of implementing the target.

Although the national and local plans are often coordinated, the Words into Action Report (2020) indicated that local plans tend to be more focused than their national counterparts. This is because local plans can more easily take into account the needs of specific communities and can adapt to changing circumstances more quickly than national plans (UNDRR, 2020). Additionally, local plans are often better equipped to leverage local resources to implement the plans in a timely and efficient manner. Furthermore, local plans are designed to address the needs of the specific region where they are implemented, while national plans often have to consider many more factors such as population size and economic differences between regions (UNDRR, 2020).

Decisions are made at the local level, where these changes are more easily seen, because risk profiles may change over time. This is the case since local conditions can change more quickly than the national average, meaning that a decision that was correct at one stage in time may no longer be the best decision at a later one (UNDRR, 2019). By making decisions at the local level, decision-makers can more easily adjust their strategies to changing conditions. For instance, local governments can respond quickly to extreme weather events by collecting data on the extent of the damage and allocating additional resources to provide relief. Thus, participation in DRR procedures by local actors from all groups in the nation is crucial, as is the consolidation of DRR-incorporated development routes (UNDRR, 2019).

Additionally, two indicators of SDGs represent Target E of the SFDRR:

- i. The proportion of local governments that adopt and implement local DRR strategies by national DRR plans.
- ii. The number of nations that adopt and implement national DRR strategies is in line with the SFDRR (UNISDR, 2020).

MSs must first acknowledge the existence of both local and national policies to properly assess whether a national disaster strategy is compatible with the SFDRR. Several qualitative

assessments can be used to calculate an indicative overall "score" of the strategy's alignment as a result of this (UNDRR, 2018b). The SFDRR provides a comprehensive framework for how local, national, and regional policies should interact to effectively respond to disasters. By acknowledging the existence of both local and national policies, MSs can ensure that their national disaster strategies are properly aligned with the SFDRR. Furthermore, qualitative assessments can be used to evaluate the effectiveness of the strategy and measure its overall alignment with the SFDRR (UNDRR, 2019).

According to UNDRR (2018b), criteria evaluators will need to be familiar with DRR in addition to the strategies, relevant institutional architecture, legislation, information availability, programmes, and processes associated with it in their countries. To ensure successful evaluation, evaluators must have an in-depth understanding of their country's legislative landscape, institutional frameworks, and DRR implementation strategies.

Because intermediate scores may be given positively or negatively, which will affect the assessment score, there is a subjective component in the assessment. The criteria provide a useful framework for evaluating national risk reduction programmes, as long as they are recognized as qualitative assessments of a different type than data (such as disaster loss numbers) (UNDRR, 2018b). The qualitative assessment of national risk reduction programmes is based on the criteria used to evaluate the program, which can be affected by subjective interpretation of the scoring results.

There are two indicators for the SFDRR's Target E: E1 and E2, which evaluate respective local strategies and national initiatives (UNDRR, 2019):

- E1: Number of countries that adopt and implement national DRR strategies in line with the SFDRR 2015-2030.
- E2: Percentage of local governments that adopt and implement local DRR strategies in line with national strategies. Information should be provided on the appropriate levels of government below the national level with responsibility for DRR.

Any subnational public administration in charge of DRR, including a city council, municipality, or district level, is considered "local government" for the UNDRR (2018). The particulars will be decided by the nation itself. Countries must report the proportion of local governments with DRR policies (UNDRR, 2018). This is to ensure that local governments are implementing the necessary strategies and measures aimed at reducing the risk of disasters in their areas. This information helps to inform the DRR strategies at national and global levels. Furthermore, this information

will enable enhanced monitoring of progress made in terms of DRR and provide a more accurate assessment of the effectiveness of local policies.

Countries are required to report on the percentage of local governments with local DRR strategies (UNDRR, 2018). Asking for national and local policies to be established and executed under the SFDRR is crucial for fostering the best enabling environment and reducing the wide range of risks addressed in the SFDRR (UNDRR, 2015).

For the implementation and oversight of a nation's risk reduction initiatives, national and local DRR strategies and plans are crucial (UNDRR, 2015). So are the implementation of checkpoints, defining the primary roles and duties of government and nongovernmental players, and outlining the technical and financial resources support. Investing in resilience, improving disaster preparedness for better recovery, understanding disaster risk, and increasing disaster readiness for an effective response are the four areas of action that should be prioritized for nations pursuing the SFDRR objective and target according to (UNDRR, 2021). The SFDRR's final target, Target E, is one of seven global goals against which MSs' progress in these areas is measured (UNDRR, 2015). This is because reducing disaster risk and increasing resilience are important parts of sustainable development and serve as cornerstones for achieving the seven global goals, such as poverty reduction, good health, and quality education.

2.6 Disaster Risk Reduction Strategies (DRR)

The cornerstone of minimizing disaster is DRR, which is widely acknowledged to be essential (UNDRR, 2019). DRR techniques are crucial for promoting societal readiness for disasters and climate change according to extant literature (IFRC, 2013; Nemaikonde et al., 2020). Therefore, DRR strategies are necessary for establishing the roles and responsibilities of the numerous stakeholders involved in disaster risk management. Stakeholders like governments and development organizations, the private sector, non-profit organizations, and local communities, who are most impacted by various hazards, should actively support and engage in DRR operations (IFRC, 2013).

According to Nemaikonde et al. (2020), DRR strategies and policies stipulate goals and objectives across several timelines in terms of particular targets, indicators, and time frames in line with the SFDRR, which provides a clear policy pathway for guiding countries to prevent risks by 2030 (UNDRR, 2015).

UNDRR (2017a) asserts that DRR strategies aid risk-informed planning and assist planners and decision-makers in mainstreaming DRR into regional and global development frameworks. Most significantly, disaster risk reduction play a critical role in steering and creating integrated, coherent

plans and actions at the national and international levels. By considering the potential risks and vulnerabilities of different kinds of disasters, it allows for more effective and efficient resource allocation to areas in need of protection. This helps to ensure that the most vulnerable communities are properly prepared and can respond quickly and effectively to disasters (UN, 2016; UNDRR, 2017a).

Target E of the SFDRR requires that governments will significantly expand the number of local and national DRR strategies and plans by 2020 (UNDRR 2015). Additionally, it contains an indicator for local strategies, that is, Indicator E-2, which necessitates reporting by countries on the percentage of local governments that implement local DRR strategies (UNDRR, 2019). The goal of the DRR strategies must be in line with the SFDRR to establish the ideal enabling environment and enable the reduction of the wide range of risks that that latter covers (UNDRR, 2019).

By 2020, as agreed upon by UN MSs, countries must have DRR strategies that are in line with the SFDRR. According to UNDRR (2017), these strategies can take various forms. Depending on the sectors and stakeholders involved, the plan may consist of a single comprehensive strategy document or a system of interconnected strategies across sectors and actors. It is essential in this regard to have a plan, a shared vision, and a comprehension of DRR. A major benefit of creating DRR strategies is that it brings together many stakeholders and nations to communicate and work together towards a common goal (UNDRR, 2017).

These policies and initiatives have been created with the help of many international cooperating partners, including the African Development Bank (AFDB), the UNDRR, and the United Nations Development Program (UNDP) (Van Niekerk et al., 2020). These partners provide the necessary resources and expertise to help implement the policies and initiatives. They also help coordinate the efforts of different stakeholders, such as governments, businesses, and citizens, by providing a platform for them to come together.

According to earlier studies (Van Niekerk & Terblanche-Greeff, 2017), DRR strategies involve vulnerability and risk assessment as well as many institutional capabilities and operational capabilities. These strategies are created by nations to be considered and linked with current strategies that manage specific threats and difficulties to their national policies. For instance, the national DRR strategy priorities can cover the hazards posed by disaster displacement and other types of linked human mobility in their respective countries (Peters et al., 2019). The international community is firmly committed to providing initiatives for developed and executed DRR initiatives as a top priority with the approval of the SFDRR (2015- 2030). The development and execution of local DRR policies by each local authority have been encouraged by the inclusion of SFDDR

as a key problem in this new global accord. The development of local and national governments that have DRR initiatives has to be tracked, (UNDRR, 2019).

DRR has been the subject of a sizable body of literature, which confirms that DRR legislation, policy, and programmes must be implemented by governments. The significance of effective decentralization of DRR, participation of political leaders and decision-makers, sufficient disaster risk governance, and development of institutional capacity are emphasised (Van Niekerk, 2015). Although DRR measures are valuable, they are insufficient for creating the desired societal resilience to shocks and pressures. The SFDRR made recommendations for all DRR models to be used by both international and domestic governments (UNDRR, 2015). Only when the SFDRR recommendations are put into practice will disaster risk decrease. These initiatives must be backed by a well-coordinated institutional architecture, legislative directives, the political support of decision-makers, and the availability of resources at all societal levels to be implemented with success (UNDRR, 2015).

The acceptance and correct implementation of these strategies, which will determine their efficacy and how successfully nations and communities can move towards Target E of the SFDRR strategies implementation, is necessary and important (Nyandiko, 2020). According to Van Niekerk (2021), DRR is therefore not an ad hoc activity that takes place within governmental structures but rather a coordinated effort to comprehend the hazardous environment and put governance systems in place to ensure that disaster risks are managed appropriately. The SFDRR focuses on the need to enhance disaster risk understanding, disaster risk governance, and coordination (European Union, 2016). Moreover, it addresses responsibility for disaster risk management and promotes readiness to rebuild after disasters. The following section discusses the importance of disaster risk governance.

2.7 Disaster risk governance

According to the United Nations Development Programme, disaster risk governance is an important issue for the reduction of disaster risk (UNDP, 2015). It includes the strategies and mechanisms used by governments to reduce their vulnerability to disasters. It also includes how local governments, civil society, and the private sector interact and collaborate to reduce risk. Disaster risk governance is essential when it comes to promoting resilience and sustainability, enabling communities to cope with disasters when they occur and restoring matters after the disaster. For instance, since 2005, the UNDP has worked with national governments, local governments, and development partners to advance the governance of disaster risk in 175 countries. Their efforts included developing and implementing policies, laws, and regulations to

help reduce disaster risk and enhance resilience, as well as providing technical assistance and capacity building to support governments in their risk governance efforts.

Disaster risk governance, according to UNDP, is the process by which the community and national and regional public authorities, civil employees, the media, the commercial sector, and civil society work together to manage and mitigate disaster and climate-related risks (UNDP, 2014). To prevent, prepare for, manage, and recover from catastrophes, it is necessary to guarantee that enough levels of capacity and resources are made accessible. Additionally, it calls for the establishment of institutions, procedures, and mechanisms that enable people to express their concerns, carry out their legal obligations, and settle disputes (UNDP, 2014).

Disaster risk governance

In the Global Assessment Report on Disaster Risk Reduction, disaster risk governance is defined as the arrangements that societies adopt to manage their disaster risk within a larger context of risk governance (GAR, 2019). This includes measures such as risk identification, risk assessment, risk reduction, risk sharing, and risk financing. It also includes the institutional and legal frameworks needed to implement these measures, as well as the policies, strategies, and plans necessary to support them. As such, risk management is an essential tool for sustainable development and poverty reduction.

Disaster risk governance had already appeared in the HFA, before the adoption of the SFDRR and was linked to the development of institutional and legislative frameworks, the allocation of resources and the mobilisation of communities (Raju & Da Costa, 2018). The HFA indicated the need for strong coordination across sectors, the inclusion of DRR into development initiatives, and the delegation of responsibility to the local level (UNDRR, 2015d).

The SFDRR calls for better disaster risk governance around mitigation, preparedness, response, and recovery (UNDRR, 2017). This requires governments and other stakeholders to develop plans to reduce the risk of disasters and respond quickly and effectively when they do occur. Furthermore, it calls for better coordination between stakeholders to ensure that resources are used efficiently and effectively. To ensure the successful implementation of the SFDRR, governments and stakeholders must collaborate to develop comprehensive plans for reducing risk and responding quickly in times of crisis.

Leshope (2016:19), claims that the Target E of the SFDRR prioritizes enhancing disaster risk governance. This is because Target E encourages countries to create, strengthen, and maintain effective, inclusive, and participatory disaster risk management policies and systems that are based on an understanding of risk, and are integrated into sustainable development processes.

As such, Target E of the SFDRR is an important step in improving the governance of disaster risks, with the ultimate goal of creating a more resilient society. As a result, the SFDRR actively encourages governments to reformulate their national policies and strategies with the intention of increasing resilience and reducing the risk of disasters (UNDRR, 2019).

The governance structure has a significant impact on effective DRR projects (UNDRR, 2019). Parliamentarians must support disaster risk reduction strategies implementation because it is they who draft and amend the laws that determine how governments are held responsible and under control. To ensure that DRR projects are effective, governments need to have a strong and well-defined governance structure that stipulates clear roles and responsibilities. This structure should be designed to ensure that the government is held accountable for its actions and that citizens can hold it to account for any shortcomings. To ensure that this is followed through, parliamentarians must exercise their oversight role and provide oversight mechanisms that enable citizens to hold their governments to account (UNDRR, 2019).

The SFDRR requests that the plans and commitments made in conjunction with the various international agreements signed in 2015-2016 be consistently carried out and strengthened (UNDRR, 2016) because these agreements are essential to achieving sustainable development goals and ensuring the resilience of communities across the world to disasters. Without consistent implementation, these goals cannot be achieved. Therefore, the SFDRR needs to ensure that the plans and commitments made in these agreements are consistently and rigorously carried out to actionable goals and build resilient communities.

Priority 2 of the SFDRR asks for "disaster risk governance at the national, regional, and global levels," and it encourages both local and international cooperation in this regard (UNDRR, 2019). Disaster risk governance is based on the distribution of power, the skills and morals of stakeholders, and the efficacy of the adopted tactics (Alexander, 2015; Munene et al., 2018). In other words, disaster risk governance involves the implementation of strategies designed to reduce the impacts of disasters by creating systems of accountability and responsibility for stakeholders, as well as promoting collaboration among different actors and levels of government. This ensures that all stakeholders have the resources and skills necessary to effectively manage and respond to disasters. In this way, disasters can be managed with greater efficiency and equitability, where everyone contributes to their prevention and minimizing the losses caused by them.

Governments must rely on risk-informed decisions and planning to enhance global partnerships and international cooperation. One of the most crucial arguments now taking place in the SFDRR is the existence of DRR policies in countries (UNDRR, 2015). Under the SFDRR framework, each

nation is responsible for the national development policies it pursues, and national policies must consider consequences outside of each nation's borders (Bello et al., 2021). The subsequent section of the present argument will centre on the significance of the fact that countries should have DRR policies in place to protect their citizens and other countries that may be affected by the actions of one state from disasters. Having policies in place also helps ensure that resources are allocated efficiently, both within each country and internationally, when it comes to responding to disasters. Furthermore, having DRR policies in place helps countries build resilience and take proactive measures to prevent or mitigate disasters.

2.8 Implementation of policies and DRR strategies in the SADC

SADC established a DRR Unit for the region in 2001, making it the first regional economic community in Africa to do so. The plan was created to ensure that the countries in the region could respond to disasters and develop strategies to reduce their impact (SADC, 2018). It also aimed at facilitating collaboration among MSs to share resources and knowledge. This groundbreaking plan has been pivotal in enabling the SADC region to adapt to and mitigate the effects of disasters.

DRR strategies were then established for the years 2006–2010 and 2011–2015 (although the latter was developed and not approved or implemented). Three documents have been created for the current period: the SADC Regional Resilience Framework (2020-2030), the DRR strategic plan and plan of action (2018-2030), and the SADC preparedness and response strategy and fund (2016–2030). The documents created for the current period provide a comprehensive approach to DRR that includes a longer-term vision, a medium-term plan of action, and a set of short-term preparedness and response strategies. These documents provide a framework for countries to develop and implement their national strategies, while they reinforce the regional effort of addressing common disaster risks.

Each of these strategies engages with international and continental objectives listed in the major African and international frameworks and policies (United Nations Human Settlements Programme) (UN-Habitat, 2022). Existing literature emphasises that natural hazards, disasters, and global policy changes have shaped the history of DRR in SADC (Nemakonde et al., 2017). The strategies are designed to respond to the identified objectives and the existing hazards and disasters in the region. They also aim at ensuring that the region is prepared to confront future global policy changes, such as those related to climate change or those that may arise from the implementation of the United Nations Sustainable Development Goals (UNDRR, 2018). By anticipating and preparing for future policy changes, the region can be more resilient and adaptive in the face of potential changes. A proactive approach to anticipating and preparing for potential

policy changes can help the region prepare for any changes that might occur (SADC, 2018). This could include developing contingency plans, establishing new partnerships, and building up its capacity to respond quickly and effectively to changes in policy.

The majority of SADC MSs changed their laws or introduced new legislation after 2005, that is, the year in which the HFA was launched, to drastically lower their disaster risk and follow international best practices and SFDRR (AUC, 2020). The SADC countries are making concerted efforts to adopt and build on the global standards of DRR. They are actively trying to reduce their risk of disasters by making sure that their laws and policies are consistent with the global standards set by the HFA and the SFDRR.

In an administrative setting like the government, according to Van Niekerk (2021), the function of legal and legislative tools is to promote anticipatory governance and direct action. This is because these tools provide an effective framework for decision-making and ensure that policies are in line with the government's objectives. Furthermore, these tools can be used to set clear standards and regulations that can be enforced by the government. As the following section will set out on a country-by-country basis, understanding the advancements made by the SADC region towards lowering the risk of disaster in the region aids an understanding of how anticipatory governance might be utilized. Understanding the different strategies implemented by the SADC region, such as early warning systems, improved infrastructure, and increased awareness of disaster risks, can illuminate ways in which other regions can utilize similar measures to be better prepared for disasters (SADC, 2018).

2.8.1 Angola

The Basic Civil Protection Law of 2003 (Law 28/03) (the Basic Civil Protection Law) is the primary piece of legislation governing disaster management in Angola. It was revised by Law 14/20 on May 22, 2020 (Republic of Angola, 2021; IFRC, 2021). The goal is to lower the likelihood of disasters by fostering relief efforts, disaster prevention, and disaster preparedness in terms of this act.

Several legislative and statutory instruments are in place in Angola, including the following (SADC, 2018):

- i. National Calamity and Natural Disaster Preparation, Contingency, Response and Recovery Plan for 2009–2014 (Presidential Decree no.205/10)
- ii. National Calamity and Disaster Preparation, Contingency, Response, and Recovery Plan for 2015–2017 (Presidential Decree No. 29/2016).

- iii. Presidential Decree no.103/2011 to establish the national strategic plan for disaster management.
- iv. Presidential Decree no.30/2016 to establish the National Strategic Plan for Prevention and DRR.

The institutionalization of disaster risk management and the Angolan government's commitment to including DRR measures as a national priority in the strategic development plan are both noteworthy (UNDRR, 2020).

At the national and municipal levels, DRR plans, and initiatives are in line with the SFDRR by 2020. To effectively implement policy, strategies are key components of a larger disaster risk governance structure according to recent UNDDR publications (UNDRR, 2015). UNDRR (2015) states that effective tactics require: the establishment of a well-coordinated institutional architecture, statutory requirements, political support from decision-makers, and access to human and financial resources at all levels of society (UNDRR, 2015e).

2.8.2 Botswana

According to SADC's 2018 report, Botswana has several legal and statutory instruments available for disaster risk management. These are meant to help the country prepare for and respond to disasters, such as drought, floods, and other natural hazards. They include national and regional regulations as well as policies and strategies to help guide the government in times of disasters:

- i. The Botswana National Disaster Management Policy of 1996.
- ii. National Disaster Risk Management Plan of 2009.
- iii. National Disaster Risk Reduction Strategy, 2013–2018.

A revised national policy on DRR was incorporated into the SFDRR 2015-2030 in the case of Botswana. This revised policy will enable the country to identify, assess, and reduce disaster risks to a greater extent, while also improving its preparedness and resilience. All 32 local governments have received the necessary training to design strategies compliant with the SFDRR 2015-2030. The execution of the developed plans following Target E of the SFDRR is less evident (UNDRR, 2018). This is to ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation. Further, using knowledge, innovation and education to build a culture of safety and resilience at all levels in Botswana (Pearson & Pelling, 2015).

2.8.3 Comoros

Comoros is generally prone to a wide range of natural hazards including volcanic eruptions, cyclones, flash floods, torrential rains, landslides, drought, pests, epidemics, tsunamis and tidal waves (UNDRR, 2015). Coastal erosion arising from climate change can also be added to this list. UNDRR facilitated the identification and consolidation of a national focal point for disaster risk information and enhanced the understanding of risk concepts and risk-assessing methodologies through capacity-building workshops (UNDRR, 2015). The Directorate General of Civil Protection (DGSC): Governmental structure created in 2012 by Decree No.12-054 / PR, is mandated to protect the population, property and the environment, and to coordinate the development of a national DRM strategy and ensure its implementation (UNDRR, 20215). Theoretically, it also has a role in disaster risk reduction.

The DGSC ensures the Permanent Secretariat of the National Platform for DRR (PNRRC). Despite its mandate, it is in an embryonic stage. The future institutional framework is being redesigned under the imminent National Strategy for the Reduction of Risk and Disasters (SNRRC) (UNDRR, 2015). The recent mainstreaming of DRR into the National Sustainable Development Strategy 2015-19 (known by the name of *Stratégie de Croissance Accélérée et de Développement Durable*, or SCA2D), demonstrates a serious political and strategic commitment by the Government of Comoros. The SCA2D has established the following

DRM-related specific objectives:

- To strengthen scientific knowledge and information systems to predict disasters.
- To strengthen institutional preparedness and capacity of the population to disasters and their consequences.
- To strengthen the response capacity of the population and organized government upon the occurrence of disasters.
- To improve reconstruction capacity and resilience of communities after disasters.

Other legislative and regulatory texts have been developed to strengthen the legal framework for managing disaster risks. They include:

- i. Environmental Law Decree No. 94-100 / PR on Article 70 that there is a commitment to the contingency plans (response in crises);
- ii. Decree of Health Law No. 95-013 / PR in Chapter VI on the fight against disasters, stipulated in Articles 179, 180 and 181.

This document constitutes the national framework for monitoring and implementation of policies, strategies, and Comorian sustainability programs as well as programmes by its development partners. The National Strategy for the Reduction of Risk and Disasters (SNRRC) is still in draft form at the time of this project. The SNRRC action plan will be aligned with that of the SCA2D and its measures are organized according to the different phases of DRR (UNDRR, 2015).

2.8.4 Eswatini

In this country, the national authority for DRR is the National Disaster Management Agency. In addition, the Regional Disaster Management Committee, the National Disaster Management Council, and emergency management structures are part of the institutional structure for DRR. Eswatini has a multi-stakeholder National Climate Change Committee (NCC) that has been in place since 2010 and is in charge of bringing together the necessary stakeholders to steer climate change activities.

The SFDRR was implemented as a policy directive for lowering disaster risk instead of earlier frameworks that emphasised managing disasters than risks according to the Strategic Plan 2017–2021 of the Swaziland National Disaster Management Agency (NDMA).

Eswatini has some laws and regulations centred on DRR, including the following (SADC, 2018):

- i. Disaster Management Act Of 2006 (Act 1 of 2006)
- ii. National Disaster Risk Management Policy of 1999.
- iii. National Disaster Management Policy Adopted in 2010

Eswatini has institutionalized DRR techniques in response to recent trends in vulnerability to rising hazards. SADC (2018) claims that Eswatini has adopted and is putting into practice national DRR strategies that conform with the SFDRR. Local DRR plans that follow SFDRR are implemented by 34% of local governments. These strategies are in place to help better prepare and protect citizens from the effects of climate change and natural disasters. The SFDRR provides a framework for these strategies, which Eswatini has adopted, and local governments are implementing plans that adhere to the framework.

2.8.5 Lesotho

A National Drought Emergency Response Plan was published in 2015 to deal with El Nino weather conditions. Lesotho has implemented a Community-Based Early Warning and Information Management System and a Resilience Framework (UNDRR, Global Platform for DRR, 2020). The National Resilience Strategic Framework (NRSF) 2019-2030 was developed by the government in 2019 to help Lesotho find a long-term solution to the many problems caused

by stresses and shocks brought on by climate change 2019). These frameworks provide a consistent and structured approach to DRR and climate change adaptation.

According to UNDRR (2020), the government also made clear its intentions to incorporate DRR into the academic curriculum, help with the execution of community vulnerability and capacity analysis, and create infrastructure standards and regulations. This included the establishment of a special unit within the Ministry of Finance to coordinate the implementation of the DRR strategies in the country. The unit is responsible for the development of an annual disaster risk management plan that will be informed by an updated national risk assessment.

2.8.6 Madagascar

To manage risks, Madagascar has implemented several legislative and statutory measures, including the ones listed below (SADC, 2018):

- i. Law No. 2015-2031 of 12 February 2016, on the national policy on disaster risk management.
- ii. Decree No. 2019-1954 of 16 October 2019.
- iii. The national risk and disaster management strategy 2015-2030 of 13 September 2016.

The National Disaster Risk Management Strategy for Madagascar for the period of 2016–2030 establishes the legal framework for DRR and management. This tool serves as a decision-making framework for disaster risk management. The nation has used a variety of funding strategies more recently, including the National Disaster Fund and the Drought Insurance System (UNDRR, 2019). The Government of Madagascar requested to mobilize the Capacity for Disaster Reduction Initiative (CADRI) partnership to support the “evaluation of the implementation of the SFDRR with a multi-risk and multi-hazard approach which integrates climate change” (UNDRR, 2022). CADRI gathered a team of experts from UN agencies, NGOs, and the Red Cross and conducted a diagnosis of DRR capacities from 26 March to 8 April 2022 in Madagascar. UNDRR is working together with the Government of Madagascar to strengthen the capacities of stakeholders to collect, analysed and use disaster risk data and information through various projects(UNDRR, 2022).

2.8.7 Malawi

A legal and regulatory framework has been established by the Malawian government to improve the management of catastrophe risks because it acknowledges the significance of reducing catastrophic occurrences (Malawi, 2019). As an illustration, the government formed the Department of disaster management affairs under the disaster preparedness and Relief (DPR)

Act (1991) (DODMA). Along with that, the government created the National Disaster Risk Management (NDRM) policy of 2015.

The Draft Disaster Risk Management Bill, 2019, was further developed by the government to address the comprehensive management of current and future disaster risks, the institutional framework and funding arrangements for disaster risk management, as well as other matters related and incidental to such management (Malawi, 2019). In addition, the government is in the process of passing the Disaster Risk Management (DRM) Bill, which would improve the administration, coordination, and execution of DRM initiatives.

A new disaster risk management law had to be created as a result of the rising number of risks and disasters to support the implementation of the national disaster risk management policy and provide a more thorough legal framework for addressing all facets of disaster risk management in Malawi. A paradigm change from disaster response to disaster risk management is envisioned as part of the proposed DRM Bill.

The National Climate Change Investment Plan 2013-2018, the National Resilience Strategy 2012-2018, and the National Climate Change Management Policy of Malawi all include comprehensive frameworks centred on government policies (Government of Malawi, 2019). Global frameworks and agreements, including the 1992 Kyoto Protocol and the 2005 HFA, have contributed to these results. These frameworks and agreements set out clear guidelines for countries to follow to reduce their carbon emissions (UNDRR, 2015). They also set out clear targets for countries to meet, which has helped motivate them to take action. The SFDRR was created to reduce the impact of disasters, promote resilience, and reduce the loss of life and damage to property. Both frameworks have had a major impact on climate change by reducing emissions and promoting sustainable energy sources.

The highest-level body for disaster risk management is the National Disaster Preparedness and Relief Committee (NDPRC) (Government of Malawi, 2015; UNECA, 2015). DRM has been recognized by the government as one of the principal areas of focus for the Malawi Growth and Development Strategy. Initiatives for disaster risk management in the nation are to be coordinated and put into action following the Disaster Preparedness and Relief Act of 1991. The law also grants the President the authority to proclaim a state of disaster.

To institutionalize DRR, Malawi has made great progress. It is a work in progress aimed at lowering the danger of disaster in Malawi. The nation has adopted and is putting into practice national DRR initiatives that are compliant with the SFDRR and 87% of local governments are following suit. However, a lack of resources, insufficient evaluation and monitoring mechanisms,

a lack of understanding of risk reduction strategies, and ineffective early warning systems hinder the adoption of SFDRR in this country (UNDRR, 2019).

2.8.8 Mauritius

The Republic of Mauritius has steadily increased its capacity to manage disaster risks. A disaster risk management strategy was developed by the republic at the time of the HFA 2005-2015. Among the results was the 2016 National Disaster Risk Reduction and Management Act (Republic of Mauritius, 2021). The act greatly increased the formal framework and scope for DRR and management in the republic.

An obligation for the national DRR and management policy is established by the act (Republic of Mauritius, 2021). The act mandates the creation of a national DRR and management strategic framework (henceforth, the national strategic framework) in addition to a national DRR and management action plan for 2020-2030 to implement the national policy (henceforth, the national action plan). Another aspect of putting the SFDRR into practice was the creation of the two documents.

The key organization in Mauritius for the planning, organizing, coordinating, and monitoring of DRR operations is the National DRR management centre (NDRRMC), according to the World Bank (WB, 2016). A national plan and a national DRR and management strategic framework were developed by the National Disaster Management Centre. A disaster information management system and a national multi-hazard emergency alert system are in the process of being created (World Risk Report, 2019). All DRR initiatives will be in line with SFDRR, according to the Mauritius government.

2.8.9 Mozambique

DRR is viewed to be an essential component of Mozambique's national strategy for climate change adaptation and mitigation (2013–2025). DRR and CCA have been integrated into district planning and budgeting processes as a result of the national plan (UNDP, 2019).

The country's National Institute for Disaster Management regulates DRR activities in the nation. It is responsible for developing and implementing policies, plans, and programmes to reduce the likelihood of disasters and reduce the impacts of those that do occur. It also works to promote the use of science and technology for DRR and strengthen the capacity of individuals and communities to prepare for and respond to disasters. The Disaster Management Technical Council and the Disaster Management Coordinating Council (SADC, 2018; UNDRR, 2019) have responsibilities in this area. The Disaster Management Technical Council focuses on developing

strategies, plans, and policies to prevent and mitigate the effects of disasters, while the Disaster Management Coordinating Council is responsible for coordinating the response to natural disasters and providing relief and assistance to affected populations.

The National Policy on Disaster Management (1999), Act no. 15/2014, Disaster Management Act (2014), and the Master Plan for Disaster Prevention and Mitigation 2017-2030, which was authorized in 2017, are the primary legal and governing documents related to these. The nation reiterated its steadfast resolve to fast-track the implementation of the SFDRR (UNDRR, 2019).

2.8.10 Namibia

The institutionalization of DRR has been advancing in Namibia (SADC, 2018). The DRR legislative and institutional structure, according to the CADRI study (2016), is in line with international accords such as the SFDRR (2015-2030) and the Africa Regional Strategy for DRR initiatives. The National Disaster Risk Management Policy for Namibia of 2009 was updated in 2017 to reflect the SFDRR. The resultant Disaster Risk Management Framework and Action Plan (2017–2021) incorporates the conclusions and suggestions of a national capacity assessment supported by the UN system through the capacity for disaster reduction initiative and the UN disaster assessment and coordination.

Using a national strategy for mainstreaming DRR and climate change adaptation, Namibia has taken initiatives to integrate DRR with CCA goals (2017–2021). Through the involvement of competent ministries or coordination mechanisms, and programmes made ties between DRR, climate change, health, environment, or other developmental goals.

The highest-level institution in the nation accountable for DRR in terms of governance is the Prime Minister's office. Disaster risk management efforts are coordinated at the federal level by the Directorate of Disaster Risk Management (Government of Namibia, 2016). Additionally, the national disaster risk management committee's decisions are advisory in nature and involve representatives from various ministries as well as those of the Association for regional councils or the Association for Local authorities.

2.8.11 Seychelles

In terms of institutional structure, Seychelles has numerous committees dedicated to disaster risk reduction. The following regulations and measures are in place: a National Disaster Risk Management Plan and Strategy by the Disaster Risk Management Act of 2014 (Act 15 of 2014). Seychelles also has a coastal management plan for 2019–2024.

A strong political effort that will address DRR has been evidenced. The government identifies the lack of resources as the primary barrier to establishing an effective DRR framework (UNDRR, 2015; Prevention Web, 2019). The government of Seychelles has made substantial efforts to integrate the Sendai Framework for Disaster Risk Reduction into its policies. For example, the National Action Plan for Climate Change Adaptation has been developed to ensure that the country's policies are in line with the SFDRR. Additionally, Seychelles has established a National Disaster Risk Management Office to coordinate disaster risk reduction efforts (UNDRR, 2015).

2.8.12 South Africa

South Africa has a well-established framework for disaster management that encourages participation in DRR across the three spheres of government. Institutional arrangements at the national, provincial, and municipal levels (Prevention Web, HFA National Progress Reports, 2019). For example, the inter-governmental committee on disaster management, involving several cabinet Ministers, high-level province councils, and municipal councils, is responsible for overseeing the National Disaster Management Act, Act no. 57 of 2002 (Republic of South Africa, 2003).

The National Disaster Management Centre and National Disaster Management Advisory Forum comprise key ministries, provinces, local government entities, statutory agencies, and civil society organizations (RSA, 2003). These structures are in charge of coordinating disaster relief efforts on a national level (SADC, 2018).

Institutions consist of formal structures and designated mechanisms centred on responsibilities, mandates, coordination, and accountability for DRR (Manyena et al., 2013:3).

The nation has a DRR framework that includes the following (Republic of South Africa, 2002):

- i. Disaster Management Act no. 57 of 2002, as amended in 2015
- ii. National Disaster Management Policy Framework (NDMF) of 2005.
- iii. National Climate Change Adaptation Strategy (2018).

The nation has laws in place but implementation of the regulations face difficulties to be implemented. According to the 2015 progress report on the implementation of the HFA, the country's main problems are caused by the fact that municipalities are lacking resources and capacity building. Budget constraints also obstruct the execution of the DRR legislative framework and national policy (Prevention Web, HFA National Progress Reports, 2019). The amendment does not specifically mention the SFDRR, but it does include language about the guidelines and standards of national disaster risk management which are in line with the principles of the SFDRR.

The amendment recognizes the importance of reducing the risk of disasters through the application of the guidelines and standards of national disaster risk management, which are in line with the principles and goals of the SFDRR (UNDRR, 2019). The amendment also includes language about the need for a comprehensive approach to disaster risk management, including the development of policies and strategies to address the risk.

2.8.13 Tanzania

Under the Prime Minister's office, the government of the United Republic of Tanzania maintains the Tanzanian disaster management department (UNDRR, 2019). The office manages disaster risk management-related tasks. Numerous development strategies, plans, and initiatives that take disaster risk into account were reported by SADC in 2018. The Prevention Web and HFA national progress report endorse recent advancements (2019).

The following laws are in place:

- i. Disaster Relief Coordination Act of 1990 and Disaster Relief Coordination Regulations of 1991.
- ii. Bill Supplement No. 5 of 2014 for the enactment of the disaster management act.
- iii. National Operational Guidelines for Disasters of 2003; and
- iv. National Disaster Management Policy of 2004.

The SFDRR data-readiness review report (2017) mentions that no national DRR strategy exists in the country. Until recently, a draft version of this has been in progress (Prevention Web, HFA National Progress Reports, 2019). According to the UNDRR (2019), the government has reaffirmed its commitment to the SFDRR stating that it will continue to promote its implementation. Tanzania has made efforts to integrate the Sendai Framework Disaster Risk Reduction into its existing policies. They have implemented disaster risk reduction strategies such as early warning systems, infrastructure investments, and disaster preparedness plans. These strategies are in line with the Sendai Framework and help ensure that the country is prepared for any future disasters (UNDRR, 2019).

2.8.14 Zambia

The nation has made tremendous progress recently towards institutionalizing DRR, and the disaster management strategy has been evaluated (UNDRR, 2019). To accelerate the paradigm, a shift has been made away from disaster management towards DRR, climate change, and decentralization. Three committees have participated in disaster management thus far (UNDRR,

2019): the National Disaster Management Technical Committee, the Disaster Management Unit, and the National Disaster Committee.

According to the SFDRR, the nation's national disaster management organization and policy have rapidly developed (SADC, 2018) and now include the following:

- i. Disaster Management Act of 2010.
- ii. Disaster Management Policy of 2015.
- iii. Disaster Management Operations Manual of 2015.
- iv. National Disaster Risk Management Framework of 2017.

However, there have been obstacles and limitations thus far, particularly concerning the availability of data and the inadequacy of insurance coverage for risks such as floods (UNDRR, 2019).

2.8.15 Zimbabwe

The operational branch of DRR in Zimbabwe is called the Department of Civil Protection (Government of Zimbabwe, 2011). The cabinet committee is in charge of the national and provincial planning committees and their subcommittees (Government of Zimbabwe, 2011) to make sure that measures for disaster risk management are incorporated into programmes for development.

The disaster risk management strategy should also be reviewed. Promoting DRR policies and ensuring emergency readiness is crucial as well as collaboration with nations both inside and outside the SADC sub-region (Manyena et al., 2013). The SFDRR will be aligned with the disaster risk management bill, which is currently being developed, and the framework will be updated to better account for available national financial resources (SADC, 2018).

2.9 General analysis of the Target E by SADC MSs

In general, the implementation of Target E by MSs has been the subject of a sizable body of literature. This has provided a comprehensive overview of the challenges related to the SFDRR implementation and the progress made in each MS towards achieving the targets. It has also highlighted some of the gaps in the SFDRR implementation and made recommendations for further action (Khoza et al., 2022).

SFDRR Priority 1 emphasizes the importance of risk knowledge, including the need for organizations to understand the risks they face, how to measure and monitor them, and how to respond (UNDRR, 2019). It encourages governments to develop strategies that will mitigate these

risks and ensure that they have the resources and capabilities to manage them effectively. To achieve this, it is important to ensure that relevant data and practical information are collected, analysed, managed, used, and disseminated as centred on the needs of different user categories as necessary (UNDRR, 2019). This will ensure that decisions are made with the most up-to-date information, that users can access the data they need promptly, and that data is accurately analysed and managed to ensure accuracy and consistency.

A quality assessment framework was created by the Centre for Research on The Epidemiology of Disasters (CRED) and included three components: methodology (how data is gathered, entered, and analysed), accuracy, and reliability (UNDRR, 2019). The DesInventar Sendai and EM-DAT databases provide comprehensive information on disasters and their impacts, which can be invaluable when discussing disaster management and relief efforts. The following discussion of these databases and the information can assist the above-mentioned SADC countries to have a better understanding of how to respond to disasters most effectively and efficiently (UNDRR, 2019). The DisInventar and EMDAT databases provide the data used to create the SADC MSs profiles. The profiles use the data to provide a comprehensive overview of the current state of disaster risk management in each SADC member state. By analyzing this information, MSs can gain a better understanding of their disaster risk management situation and develop appropriate SFDRR strategies for their countries (UNDRR, 2019).

2.10 DesInventar

DesInventar, a straightforward and uniform system for gathering, storing, analysing, and displaying information on losses brought on by disasters, is being embraced increasingly by nations worldwide (UNDRR, 2019). DesInventar is an analytical and conceptual tool for tracking voluntarily made pledges to implement the SFDRR (UNDRR, 2019). It educates stakeholders about efforts to implement the SFDRR to eliminate duplication and maximise impact. The creation of the reporting and its design, which makes disasters apparent on a local scale, encourage discourse for DRR within stakeholder sectors and across levels of government (UNDRR, 2019). It makes use of SFDRR-compliant definitions of risks and effects as well as all 38 of the OEIWG'S suggested indicators with the potential for disaggregation (UNDRR, 2019a).

DesInventar is made up of software with two primary parts (UNDRR, 2019). The database is populated by filling in present fields and by direct and indirect effects in terms of the administration module, which is relational and structural in nature. Deaths, houses lost, infrastructure lost, and impact on economic sectors are entered. The analysis module provides queries that might contain relationships among the various effects, event kinds, causes, locations, and dates based on the database. This module enables the simultaneous representation of such queries by using tables,

visuals, and topical maps. It enables the UNDRR to keep track of and evaluate the work done to improve the efficiency of stakeholders' shared responsibilities for SFDRR implementation (UNDRR, 2018).

2.11 Emergency Events Database (EM-DAT)

The Emergency Events Database (EM-DAT) tool is a web-based application that collects, evaluates, and visualizes data related to disasters. A global database on natural and technological disasters, CRED's EM-DAT was established in 1988 and contains essential core data on more than 17,000 disasters worldwide from 1900 to the present (EM-DAT, 2019; CRED, 2022). It enables users to assess current and future disaster risks and develop strategies for mitigating these. The EM-DAT tool is designed to provide users with the necessary information to make informed decisions about DRR EM-DAT.

The data gathered from EM-DAT inform disaster response and risk reduction strategies and provide an evidence base for decision-making and policy formulation. It is also used for research, advocacy, and education on global disaster trends and impacts. At the national level, EM-DAT contains information on disasters based on geographic, temporal, human, and economic factors. It is the most comprehensive and reliable global disaster database, and it is used by governments, international organizations, and the private sector for disaster management and policy decisions. EM-DAT is gathered from a variety of sources, including governmental and non-governmental organizations, insurance firms, research institutes, press outlets, and many more. As a result, these two datasets might present very different depictions of disaster losses in a nation (Bello et al., 2021).

Therefore, it allows for the assessment of vulnerability and rational decision-making under disaster conditions. By understanding the risk factors associated with a particular area, governments and businesses can develop plans to reduce the potential impacts of such disasters on their citizens and operations. This includes creating plans to evacuate people safely, providing essential supplies such as food and water, and preparing for long-term recovery efforts.

A global identifier number, or GLIDE number, was first used by EM-DAT around 2002. The "automatic glide generator" started producing new GLIDEs at the start of 2004 for all upcoming crisis events. As a result, disasters that did not meet the EM-DAT inclusion requirements could enjoy such a number. In contrast to DesInventar, which uses a hierarchical technique with disaster entries assigned at the country level before moving on to the province or state, district, or town level, EM-DAT uses a country-level data-gathering methodology. The inclusion requirements for

an occurrence to be designated a disaster embody a further significant distinction between the two databases (Panwar & Sen, 2020).

2.12 Conclusion

National and local frameworks are important components of the environment that make it possible for MSs to successfully reduce risk. By setting standards and regulations, these frameworks provide guidance and direction for the development of risk-reduction strategies. They also provide access to resources and funding to help countries implement these strategies. Moreover, they play a vital role in helping countries coordinate and collaborate on risk-reduction initiatives, thus enabling nations to develop more effective and efficient solutions. This chapter emphasized the significance of reviewing and aligning DRR strategies with SFDRR in SADC nations. This is important because it provides an opportunity for reviewing existing policies and strategies and identifying areas where the SFDRR objectives can be mainstreamed or strengthened. Additionally, it promotes a holistic approach to disaster risk management which, in turn, encourages the integration of various stakeholders and sectors. By doing so, this process increases the potential for more effective and efficient integration of DRR into development, making it a key component of sustainable development.

The SFDRR emphasizes the seven goals and four indicators that MSs must implement. The seven goals centre on risk prevention and reduction, risk management, and preparedness, while the four indicators measure the effectiveness of the actions taken to achieve those goals. This ensures that countries can identify the progress they are making in DRR and set targets for improvement. By incorporating the SFDRR's seven goals and four indicators, countries can accurately measure their progress in DRR and strive to reach new goals.

As agreed, upon by UN MSs, these strategies ought to be in line with the SFDRR's Target E. The SFDRR is a 15-year-long, voluntary, non-binding agreement that recognizes that the state has the primary role when it comes to reducing disaster risk, but that responsibility should be shared with other stakeholders, including local government, the private sector, and others. It was also highlighted here that gaps exist around sharing of the information and data collection by the SADC region.

The United Nations Management System (UN MS) has access to DesInventar and the Sendai Framework Monitor (SFM) for data collection. This facilitates the compilation and analysis of data from a variety of sources, which can then be used to evaluate the efficacy of the UN's efforts in DRR and climate change adaptation. DesInventar and EM-DAT data tools' differences were discussed and explained. DesInventar is a tool used to collect and manage disaster data. EM-

DAT is a tool used to track and analyse the impacts of disasters over time EM-DAT(2019). They offer different features: DesInventar provides more detailed information on individual disasters while EM-DAT contains historical data to a greater extent.

The Target E of the SFDRR in SADC and existing DRR strategies are the subjects of the discussion in the subsequent chapter of the study. The research methodology will be introduced.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Previous studies report that methodology denotes the general viewpoint and manner in which the research procedure was conducted and the reasoning around obtaining and analysis of such information (Collis & Hussey, 2003). The methodology is particularly important to research because it helps to ensure that the results are reliable and valid. It also allows researchers to replicate the study and compare the results to previous studies. Different authors report that methodologies explicate and define the kinds of problems that are worth investigating (Creswell & Tashakkori, 2007). Most research starts with that which constitutes a researchable problem and testable hypotheses. The methodology further facilitates the framing of a problem in such a way that it can be investigated by using particular designs and procedures. Finally, a robust methodology allows for the selection and develop appropriate means of collecting data (Teddlie & Tashakkori, 2003).

This brings into focus the ethical considerations around using mixed-method design. To discuss these, the research method used in this study to gather information to answer specific and general research questions will be revisited. The latter involves outlining the research approach that the study adopted as well as the research instruments used for collecting data. The present chapter therefore starts by giving an overview of the research design and there will be a discussion of the reasons behind conducting a mixed methods approach. The data collection process will be explained, followed by the sampling techniques and data analysis approach adopted. This will be followed by a subsection on validation and the triangulation of results.

3.2 Research design

This study applied a mixed-methods methodology based on an assessment of the relevant literature. According to Bergman (2008), the advantage of using this design is that the investigation of a certain domain of social reality can be compared with the examination of a physical object from two different viewpoints or angles. This combined methodology focused in the present case on obtaining the data through conducting interviews and interpreting the meaning of the responses. The present study used both quantitative and qualitative techniques to analyse sampling designs used by mixed methods. The mixed-methods approach allowed for the sequential collection of both qualitative and quantitative data. This required integration and the grounding of such data within substantive content-theoretical frameworks and philosophical assumptions (Teddlie & Tashakkori, 2009). Creswell & Plano Clark (2007:5) provide a

comprehensive definition of mixed-methods research as a research design with philosophical assumptions as well as methods of inquiry.

Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone. By combining quantitative and qualitative approaches, researchers can gain a deeper understanding of a research problem by looking at it from different angles. Quantitative research is used to measure and analyse numerical data, while qualitative research is used to gain a deeper understanding of the phenomenon studied. When used together, these approaches can provide a holistic understanding of the research problem.

These authors further emphasize that mixed-methods research helps answer the research questions that cannot be answered by quantitative or qualitative methods alone while providing a greater selection of tools to meet the aims and objectives of a study (Creswell and Plano Clark, 2007). By combining quantitative and qualitative methods, researchers can gain a more holistic understanding of their research topic. The combination of these two methods allows researchers to access a larger range of data, identify patterns and correlations, and draw more meaningful conclusions. Tashakkori & Creswell (2007:2) define mixed-methods research in more elaborated terms focusing on the necessity of a manifestation or merging in every step, involving research in which the investigator collects and analyses data, integrates the findings and draws inferences by using both qualitative and quantitative approaches. This type of research is beneficial because it allows researchers to analyse data from multiple perspectives and draw more reliable conclusions. By combining both quantitative and qualitative methods, researchers can gain a better understanding of the complex issues they are studying

A mixed-methods researcher adopts a "non-purist or compatibilist or mixed position" (Johnson & Onwuegbuzie, 2004:15). Further, it offers the scope of blending various research design constituents to seek the best solution to the precise research problem. A mixed-methods research design was applied to the study based on the premise that the qualitative method offers an in-depth experience of individual perspectives, while quantitative methods provide generalization and precision (Creswell, 2014). Qualitative and quantitative research designs were adopted to provide techniques, methods, approaches, concepts, or language in this study (Johnson & Onwuegbuzie, 2004:17).

Qualitative data were engendered by open-ended sources, usually without predesigned responses, whereas quantitative data is engendered by close-ended data sources such as tests, questionnaires, or psychological instruments (Creswell, 2014). According to Maxwell (2016), mixed methods offer logical grounds, methodological flexibility, and an in-depth understanding of

smaller cases. Mixed methods offer the ability to combine quantitative and qualitative data. This allows researchers to gain a more holistic understanding of their research questions as they can assess both the numerical data as well as the contextual data. This can be particularly useful for smaller studies as it allows for a more in-depth exploration of the topics under investigation. In other words, it is the type of research in which a researcher combines elements of qualitative and quantitative research approaches: for example, it uses qualitative and quantitative viewpoints, data collection, analysis, and inference techniques for the broad purposes of breadth and depth of understanding and validation (Enosh et al., 2014; Schoonenboom & Johnson, 2017).

The quantitative approach helps the study collect data from a large number of participants, thus increasing the possibility of generalising the findings to a wider population (Dawadi et al., 2021). The qualitative approach, on the other hand, provides a deeper understanding of the issue being investigated, as indicated, by honouring the voices of its participants. In other words, whereas quantitative data brings breadth to the study, qualitative data provides depth to it.

The qualitative method examines phenomena in their natural settings and makes sense of or interprets them, hence, elucidating the meanings of the settings. Qualitative data are in-depth descriptions of circumstances, people, and interactions. This includes observed behaviours, events, attitudes, thoughts, and beliefs. More recent attention has focused on the goal is to answer the research question in terms of direct quotes from people who have experienced or are experiencing the given phenomenon (Patton, 2002). Therefore, qualitative approaches respond to the social conditions, local settings, and the needs of the stakeholders. The quantitative method engages in assessing the phenomena through theory and hypotheses instead of producing new theories. It produces abstract and general knowledge and might give rise to complications during the direct application to specific local situations, contexts, and individuals (Johnson & Onwuegbuzie, 2004).

Each methodology, in turn, involves different expectations and standards for determining the number of participants required to achieve its aims. Researchers report that the quantitative method relies on established formulae for avoiding errors, while qualitative methods often rely on precedents for determining the number of participants based on the type of analysis proposed (Morse & Niehaus, 2009).

Previous studies have reported that mixed-methods research helps obtain rigorous conclusions by employing two methods in such a way that the strengths of the qualitative methods offset the weaknesses of the quantitative methods and vice versa (Plano, 2016). These studies imply that a quantitative method can be strong in those areas where a qualitative method is weak and vice

versa. In other words, one method is more suitable for answering one kind of question and the other for another kind.

Mixing the two methods, therefore, offers the possibility of combining two sets of strengths while compensating for the weaknesses of each method. Thus, the combination of quantitative and qualitative methods is often proposed because a researcher can utilize the respective strengths, escape the respective weaknesses of the two approaches, and produce a more accurate conclusion (Dawadi et al., 2021).

Creswell and Clark (2011) comment that this approach enables a greater degree of understanding to be formulated than if a single approach were adopted for specific studies. Furthermore, they put forward a collection of core characteristics that highlight key elements within mixed-method research. They state that researchers collect and analyse both qualitative and quantitative data in a sequential or simultaneous and rigorous manner, which integrates the two forms of data.

Creswell (2006) indicates that a common practice among mixed-methods researchers is to select the same individuals for both procedures of data collection so that the data can be more easily converged or compared. Selecting different individuals would introduce personal characteristics that might confound the comparison.

3.3 Population and Sampling

Trochim (2002:20) defines sampling as the process of selecting units, such as people and organizations, from a population of interest so that, by studying it, one may fairly generalize the results to the population from which they were chosen. The population of interest was SADC MSs, which comprise 16 countries. However, the study has focused only on the MSs with DRR strategies, which reduces the number to 15. These MSs are as follows Angola, Botswana, Comoros, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Tanzania, Zambia, and Zimbabwe.

All individuals who satisfy certain requirements around the implementation of the SFDRR are included in the population. This is because the SFDRR is intended to embody a comprehensive approach to DRR, and as such, includes individuals that meet the criteria for participation regardless of their country or region. The researcher ensures that the SFDRR is implemented uniformly and without bias (UNDRR, 2015). For example, the SFDRR includes persons regardless of their socio-economic status, gender, race, or ability, and it strives to ensure an equitable and inclusive approach to DRR.

The study respondents were located within SADC MSs by using sampling approaches. The study was conducted among SADC MSs to represent the region and ensure the data's validity. Approaches such as non-probability purposive sampling were used to ensure that the sample population was representative of the target population. However, there were potential limitations to this study. For example, the study was limited to SADC MSs and might not represent the entire African continent.

3.3.1 Sampling technique

A non-probability purposive sampling design was used to select study respondents in each country. Purposive sampling is also referred to as judgmental sampling or expert sampling (Battaglia, 2011). It is a type of sampling that involves selecting respondents based on the researcher's judgment of who would be most suitable for the study. This type of sampling is useful when the researcher has limited resources and needs to get the most out of their data collection. The idea behind it is to concentrate on respondents with characteristics that engender relevant information about the implementation of Target E. In terms of DRR strategies, respondents were chosen who were willing to provide information in terms of knowledge or experience (see Bernard, 2002).

A total of 15 SADC countries were considered for the study since they had DRR strategies in their countries. A small sample was chosen because of the expected difficulty of obtaining full participants in these countries, including the SADC secretariat office. A purposive sampling of 10 to 15 individuals who were knowledgeable about DRR strategies per country was planned. Firstly, all individuals were consulted via email. However, only 6 respondents responded and made themselves available to participate in the study, and they were from Botswana, Eswatini, Lesotho, Seychelles and including SADC secretariat, as will be indicated in the section of the table. Follow-up emails were sent to individuals from other countries, but the response was negative. They cited their busy schedules, albeit that the questionnaire was sent to them on time.

The researcher consulted the SADC secretariat, which was available and willing to be interviewed for the study. The SADC secretariat's role is to provide oversight on DRR strategies in the region, indeed even to countries that did not respond to the data requests. The SADC secretariat shared the information about all SADC countries for the study. The SADC secretariat is the coordinator of the SFDRR implementation and supports the SADC MSs to develop policies and strategies for DRR. It provided useful details about SFDRR strategies in the SADC region.

Iker et al. (2016) emphasized the value of being available, willing to engage, and able to articulate expressively while communicating reflectively about experiences and viewpoints. They argue

that these qualities allow people to build and maintain meaningful relationships which can, in turn, lead to increased trust, improved work dynamics, and enhanced collaboration. Below is the table for the sample size of the study.

3.3.2 Sampling size

Table 1 Distribution of total respondents

Name of the country	Total
Botswana	1
Eswatini	1
Malawi	1
Seychelles	2
SADC Secretariat	1

Source: Primary data SADC DRR MSs focal points 2022

3.4 Inclusion criteria

The inclusion criteria process of integration involves combining the data to create new insights and develop a holistic understanding of the research problem. By combining both quantitative and qualitative data, researchers can gain a more complex and nuanced understanding of the research topic. This type of integration is useful when the researcher wants to identify a specific topic in the qualitative data that can then be used as a point of comparison with the quantitative data. It also facilitates in-depth analysis of the data by allowing the researcher to see how different points of view or ideas interact with one another. For example, a researcher could use the integration of qualitative and quantitative data to compare the frequency of a certain type of behaviour reported in survey responses with the in-depth accounts of that behaviour given by interviewees (Niehaus, 2009).

3.5 Process of obtaining informed consent

Informed consent is a process in which a person voluntarily agrees to participate in a research study after having been given full disclosure of all the risks, benefits, and alternatives involved. The process of obtaining this involves informing the participant of the research study's purpose, procedures, and any potential risks or benefits of participation. It also involves ensuring that the

participant understands the information they have been given and is freely giving their consent without any coercion.

Before the researcher started the study, all respondents were informed of its purpose and any potential risks to them. The researcher made sure that respondents had the opportunity to ask questions and allowed them to opt-out at any time. The researcher then inquired about their consent to having their interviews recorded. This was done to ensure that their responses were accurately documented for the study, and so that the researcher could refer back to the recordings if needed.

3.6 Data collection

Structured and semi-structured questions were developed and compiled into questionnaires, which were used as tools for collecting data. The online virtual platform was used to collect data. The researcher used a questionnaire that was sent out via email. The researcher organized online virtual discussions with respondents. The online survey was used for further data gathering, data validation, and triangulation.

3.6.1 Data collection tool

The study used a qualitative data analysis approach to interpret and present the data that were collected by using a questionnaire and an online virtual platform and open-ended questions. In this study, the qualitative analysis component was given significantly higher priority. The analysis was a qualitative-dominant mixed analysis, whereby the analyst assumed a constructivist-post-structuralist critical stance concerning the mixed analysis process, believing that the inclusion of quantitative data and analysis was likely to provide richer data and interpretations (Johnson et al., 2007).

The study used a combination of research and real-world experience to develop the tools used. The researcher conducted interviews with experts in the field and studied existing DRR strategies. With the data gathered, the researcher was able to create tools that worked in both theory and practice, ensuring their effectiveness and efficiency.

3.6.2 Organising the data

Using the transcription process, the researcher checks the accuracy of the collected data and ascertains that these have not been misrepresented in any way. Analysis of the data allowed the researcher to identify trends and patterns that could subsequently be used to reach conclusions about the research problem. Finally, arranging the data logically allowed the researcher to draw connections between the data and the research objectives. For example, by transcribing and

analysing qualitative data, the researcher compares the different perspectives among respondents and reaches conclusions about the research problem.

3.6.3 Categorising the data

This allowed the researcher to identify relationships between data from different domains and develop meaningful conclusions. By combining data from multiple sources, the researcher was able to look at the bigger picture and develop insights that would have been impossible to uncover by looking at data from within a single domain.

3.6.4 Coding the data

The coding data were used to ensure that data were collected from multiple sources, including individuals and interviews, to ensure that a broad range of perspectives and experiences were included in the study. Data analysis was conducted to ensure that these were interpreted accurately and without bias. For example, the researcher conducted iterative re-readings of the transcripts to ensure that any emerging themes were identified accurately and consistently. This allowed for the identification of themes and patterns that could then be used to develop a more detailed understanding of the data. These categories facilitated further analyses, such as those centred on the frequency of specific phrases and the relationships between different phrases.

3.6.5 Using the coded data to develop themes and patterns

By understanding themes and patterns, the researcher can gain a better understanding of the data and draw meaningful conclusions from it. The researcher may be able to spot any potential problems in the data and make the appropriate corrections thanks to his or her awareness of gaps and discrepancies(Iker et al., 2016). For example, if there is a pattern of missing data in certain sections of the set, the researcher can investigate the cause and make any necessary changes to ensure accurate results. This provides the researcher with the opportunity to identify errors in the data and adjust the results accordingly. Moreover, it allows him or her to compare the results to other studies and draw valid conclusions based on the findings.

The codes and themes of the present study were based on interview responses, observations, and documents. The process of open coding, which involved looking for patterns in the data and then creating categories for the codes, was used. The researcher then developed themes by looking for connections between the codes and the research questions.

3.6.6 Synthesising the data and drawing conclusions

By creating themes and patterns, the researcher can form a clearer picture of the data. This allows him or her to draw reliable conclusions and make useful recommendations. For instance, a researcher studying a new phenomenon may need to read through dozens of articles, interviews, and surveys. By thematically analysing the data, the researcher can quickly determine the key chunks of information and use these to form a conclusion. To analyse the quantitative data, the researcher first understands the data and creates visualisations for the interpretation of the data. Through visualisations, the researcher can identify patterns and trends in the data that would be difficult to detect by just looking at the raw data. This allows the researcher to draw conclusions and make decisions based on the data they have collected. Finally, the researcher used the findings to draw conclusions and make recommendations.

3.7 Validity and reliability

According to Johnson (2014), the goal of examining research validity, especially around the mixed-method approach, is to make justified qualitative, quantitative, and integrated claims. Creswell (2014) states that, in mixed-methods design, the validity of both qualitative and quantitative data should be upheld in data collection, analysis, and interpretation. In this study, various methods, as indicated, including interviews, questionnaires, and the literature study, were used to gather and analyse data to ensure reliability and validity.

Several researchers have reported that the use of multiple sources of data, as employed in the present study, enables triangulation by providing latitude to establish whether a convergence or divergence occurs between the qualitative and quantitative data (Johnson & Onwuegbuzie, 2004).

Triangulation, as a qualitative research strategy, is the use of multiple methods or data sources to develop a comprehensive understanding of a research problem or to test validity in terms of the convergence of information from different sources (Carter et al., 2014). Another value of a mixed-methods approach is its triangulation component.

To ensure validity and reliability, the researcher conducted a thorough review of existing relevant literature and conducted interviews with experts in the field of DRR strategies. The literature review was used to determine the validity of the research, while the interviews with knowledgeable individuals provided insights into the reliability of the research. Additionally, the interviews helped ensure that the research was based on current knowledge and a contemporary understanding of SFDRR strategies.

3.8 Ethical considerations

The study was awarded an ethics number before its commencement: **N W U - 0 0 5 7 0 - 2 1 - A 9**. See the ethics certificates attached in Annexure A.

As mixed-methods studies contain both qualitative and quantitative strands, researchers should be cognizant of the ethical considerations that are central to these two approaches (Mayende, et.al, 2018). Further, the overriding principle of research ethics is that respondents are not harmed.

Creswell (2014) states that it is necessary to uphold ethical standards during a study to ensure that the dignity and rights of study participants are upheld, and that the data collected are not compromised, especially by bias on the part of the researcher. Maintaining ethical standards helps to ensure that the data collected are accurate and reliable and that the researcher is not using their own biases to influence the study results. Additionally, it helps to ensure that respondents are not subjected to unnecessary harm or discomfort.

3.9 Permission and informed consent

According to De Vos et al.(2011), informed consent ensures the full knowledge and cooperation of subjects while also resolving, or at least relieving, any possible tension, aggression, resistance, or insecurity on their part. Informed consent and issues of privacy and confidentiality are basic principles of ethical research conduct (Eysenbach & Till, 2001). The respondents were made aware of the research topic and the sorts of questions that would be asked as well as how the data would be stored and used. This was done to limit any potential harm when interviews were used to collect data.

3.10 Anonymity and Confidentiality

De Vos et al., (2011) state that every individual has the right to privacy, and it is his or her right to decide when, where, to whom, and to which extent his or her attitudes, beliefs, and behaviours will be revealed. All information provided by participants is voluntary, anonymous, and confidential. All data collected should be stored securely and processed by the Data Protection Act. Only the principal researcher and supervisors should see the results, and the findings from the study should be used for ethical purposes and should be accurately reported, while outcomes might be shared with tutors to assist the future student. These maxims were upheld carefully in the present project.

3.11 Cooperation with Contributors

De Vos et al., (2011) identify contributors as the colleagues and students that participate in the research process, whether they are equal partners who will also be named as authors or people who only contributed, for instance, towards entry into the field or data gathering and who will only be acknowledged in the publication. All information or contributions provided by respondents in the present study were given on a voluntary, anonymous, and confidential basis.

All data collected were stored securely and processed following the Data Protection Act. Only the principal researcher and supervisors saw the results, while findings were used for ethical purposes and accurately reported and outcomes might be shared with academic institutions to assist future students, once more.

3.12 Limitations

Due to the COVID-19 pandemic and travel restrictions especially in SADC MSs, all respondents were interviewed on the Microsoft Teams platform. Given the limited time that was available for this, it was challenging to ask in-depth questions and gain a complete understanding of the subject. With only an hour that was available for each conversation, it was challenging to cover all the topics that needed to be discussed, let alone go into detail on any of them. These circumstances also made it challenging to assess a given person's understanding of the subject when insufficient opportunities were available to ask follow-up questions.

Poor or unreliable internet connections occasionally disrupted the conversations. Additionally, when the connection was unreliable, the conversation could be dropped altogether. Additionally, due to South Africa's dreaded load-shedding crisis, frequent power outages occurred that further disrupted or delayed discussions. This meant that progress was often stalled because individuals were unable to access the materials they needed or to communicate with each other. It was not possible to evaluate the Target E of the SFDRR implementation in the region further because the sample size was too small. However, the SADC secretariat played a big role by giving more information about SADC region, since the office has information about DRR strategies .

3.13 Conclusion

This chapter gave a detailed outline of the study in terms of its research design and methodology. It indicated that, by using a qualitative method, pertinent data regarding the research questions were gathered. This method allowed for a greater level of detail and nuance, as it included interviews conducted with individuals who were experientially knowledgeable about the research topic. It was stated that this data would be analysed to identify trends and patterns that could help

answer the research questions. The analysis of the data was meant, the chapter showed, to reveal key insights that were used to inform the research questions and provide a more comprehensive understanding of the topic. It was demonstrated that a qualitative approach was best suited for collecting pertinent data from key informants because the study relied heavily on people's perceptions and observations. The chapter describes the instruments used to collect primary and secondary data of a qualitative nature concomitant with reasons why additional data collection methods were not utilized. This was done to ensure transparency in the research process and provide the reader with an understanding of why certain data collection methods were chosen above others. Additionally, it was shown that this would allow the researcher to provide a rationale for modifications that were made to the research design.

It was shown that one of the sample methods used in the investigation was purposeful. This is a method in which the researcher selects respondents based on specific criteria that are related to the research question. It allows the researcher to select respondents who are more likely to have the knowledge or experience needed to answer the research question. The methods the researcher used to analyse the data and arrive at conclusions were subsequently outlined. The researcher provided details on the data collection process, the statistical methods used, the software programmes employed, and the assumptions and limitations of the study. All this information, it was shown, was used to ensure the accuracy of the results and conclusions. It was argued that this would validate the researcher's findings and conclusions while providing a strong foundation for the study.

In this chapter, additional examples of the steps the researcher took to guarantee the results' validity and reliability were given. It was shown that the researcher utilized established methods of data collection and analysis to ensure that the results were accurate and could be replicated. To avoid violating the laws that protect individuals, the ethical considerations that were entertained throughout the study were discussed. The restrictions and difficulties encountered throughout this research course were listed in the conclusion.

CHAPTER 4: FINDINGS

4.1 Introduction

On this basis, the researcher can provide respondents with suggestions for enhancing SFDRR strategies in light of the issues and gaps identified. The present researcher suggested an increase in public awareness and education about SFDRR strategies as well as strengthening local and regional coordination and collaboration among stakeholders to ensure that all the resources available for SFDRR would be utilized effectively. Additionally, the researcher recommended further research into the gaps identified to identify new strategies and solutions centred on SFDRR as well as a need for collaboration to ensure the most effective implementation of SFDRR strategies.

To encourage collaboration, many SADC MSs have adopted legislation to ensure that DRR activities are implemented across all sectors. By looking at well-known disaster databases and supplementing them with data collection from SADC representatives, the present study embodies a mixed-methods approach to obtain the necessary data. This approach allowed for a comprehensive assessment of the disaster data and provided insights into how the data varied across different periods, regions, and other variables. This enabled the researcher to obtain a clearer picture of the disaster data, including the types of disasters, the severity, and the geographic extent of the incidents. They were also able to compare the data in terms of how it changed over time and how it differed from one region to another.

The following section demonstrates how themes and thematic data analysis emerge from data analysis. Themes represent the overarching ideas that emerge from the analysis. They are the patterns and connections that are identified and explored during the analysis process. Thematic data analysis involves identifying, coding, and interpreting themes to make sense of the data and draw conclusions.

The responses from respondents from four nations and the SADC secretariat served as the basis for the development of all themes (see section 3.3.1). All responses were carefully analysed and discussed to identify common themes and patterns that emerged across the four nations and the SADC secretariat. These themes were then used to create a framework for further research and development.

4.2 Existing DRR Strategies

Establishing implementation milestones that define the major roles and responsibilities of government and non-government actors and locating technical and financial resources are all

essential components of the plans and strategies for DRR (UNDRR, 2015e). For instance, the Sendai Framework for Disaster Risk Reduction asks for each country to develop a 'national platform for disaster risk reduction' that should include clear roles and responsibilities for all parties involved in DRR (UNDRR, 2019). This will help create a shared understanding between all stakeholders, including governments, international organizations, civil society, and the private sector, who are all involved in the implementation of DRR initiatives.

Having a clear understanding of each other's roles and responsibilities will help to ensure that DRR initiatives are properly coordinated and that everyone is working towards the same goal (UNDRR, 2019). For example, governments can provide the legal and financial frameworks and support needed to enable stakeholders to coordinate and collaborate on DRR initiatives, while civil society organizations can provide awareness and education about the importance of DRR. To maximize the effectiveness of DRR efforts, it is essential for everyone involved to understand their role and be properly organized and prepared (UNDRR, 2019).

4.3 Section of the questionnaire

This section of the questionnaire required respondents to give information on regarding the SFDRR's implementation of Target E in the SADC region. The survey was designed to measure the effectiveness of the SFDRR's implementation of Target E in the SADC region among various stakeholders, including government representatives, NGOs, and members of local communities. The feedback was used to assess the effectiveness of the SFDRR's implementation of the Target E initiative in the SADC region and establish any necessary adjustments for future implementations.

Each of the respondents was from a given SADC locale, including Botswana, Malawi, Seychelles, Eswatini, and the SADC secretariat, the latter of which oversees the SADC region, as indicated. All respondents provided sentiments that most SADC MSs have their DRR policies and strategies in place. This was evidenced by the fact that all respondents stated that their countries had DRR policies and strategies in place and that these policies and strategies were reviewed and updated. The SADC Biennial Report for 2018 states that, except for the Democratic Republic of the Congo, 15 of the 16 SADC MSs had implemented DRR strategies (SADC, 2018). This is a positive sign for the region, as it shows that the MSs are taking proactive steps towards mitigating the potential damage of natural disasters. Additionally, their DRR strategies are based on the Hyogo Framework for Action which is an international agreement that sets out clear objectives for DRR.

According to the findings of the Biennial Report 2018, SADC MSs have made significant progress in the areas of strategy development, law-making, and re-examinations of previous plans, strategies, and legislation. This has allowed them to increase their understanding of the current state of the climate and develop more effective strategies to address it. They have also been able to assess the effectiveness of their existing plans and develop new plans and legislation to better address the challenges posed by climate change. As a result, they are better prepared to tackle the effects of climate change in a more comprehensive and effective with the UNDRR's report, which states that the Sendai Framework Monitoring (SFM) demonstrates a significant increase in the number of national DRR strategies developed by UN MSs between 2015 and 2019 (UNDRR, 2019).

The SFM also shows that more countries are actively engaging in DRR activities, such as developing risk assessments and early warning systems, which have been proven to reduce the impact of disasters. Additionally, the SFM also notes a significant increase in the number of countries that have included DRR in their national plans and policies. This demonstrates that DRR is becoming an ever more important priority for governments around the world, as they recognize its potential to reduce the devastating consequences of disasters.

According to Manyena (2016), SADC MSs have signed up for the SFDRR 2015-2030, so it is anticipated that the international framework agreement will be implemented. However, it is worth noting that the agreement is non-binding. It is therefore possible that MSs will not follow through with implementation. Since the inception of the preceding framework, the HFA, the SADC secretariat has been stating that DRR strategies exist. However, due to the lack of resources, limited progress was made in the implementation of DRR strategies in the SADC region. This means that, while DRR strategies may exist on paper, they are not being implemented in practice. A lack of resources has created a gap between the theoretical existence of DRR strategies and their actual implementation, meaning that the region's DRR goals are not being met.

All respondents shared the sentiment that most SADC MSs have their DRR policies and strategies in place, which resonates with the SADC Biannual Report, 2018 which, as indicated, reports that 15 of the 16 SADC MSs have DRR strategies in place excluding the Democratic Republic of Congo. This report finds that SADC MSs have made significant strides in developing strategies, promulgating laws, and revisiting existing plans, strategies, and legislation relevant to DRR. This resonates with the report of the UNDRR, which indicated that, from 2015-2019, the SFM showed a significant increase in the number of national DRR strategies developed by UN MSs (UNDRR, 2019). Previous literature reported that SADC MSs signed up for the SFDRR 2015-2030 therefore, they are expected to implement the international framework agreement (Manyena, 2016).

In addition, the SADC region developed additional strategic frameworks to address disaster risk according to the SADC secretariat. These frameworks are designed to assist in the reduction of disaster losses and the strengthening of resilience, with a focus on developing the necessary capacities to manage and reduce disaster risk. Furthermore, these frameworks look to improve the ability of MSs to prepare for and mitigate disasters, as well as enhance their ability to respond effectively to and recover from them, all of which are reflected in extant literature on DRR. SADC has produced three vital documents in this regard: the SADC Preparedness and Response Strategy and Fund (2016–2030), the Regional Resilience Framework (2020–2030), and the DRR Strategic Plan and Plan of Action (2018–2030).

According to UNDRR (2015), Target E of the SFDRR required a significant increase in the number of local and national DRR strategies and plans from governments by 2020. This was designed to ensure that DRR activities were integrated into development plans and policies at all levels and that local governments, communities, and individuals would be better prepared for disaster risk and cope with the impacts of disasters. The respondent from Eswatini believes that SFDRR provides general guidelines for reporting progress on DRR policies, strategies, and plans. He maintained his belief that SFDRR provides detailed frameworks for monitoring and evaluating the effectiveness of DRR policies, strategies, and plans, as well as guidance on how to report progress on them. In this manner, governments and other stakeholders can track the progress of their DRR efforts and ensure that they are successfully achieving their goals.

Target E of the SFDRR has an indicator for local strategies (Indicator E-2), which prompts countries to report the percentage of local governments with local DRR strategies, as stated in the Global Assessment Report (2019). This indicator is important because it allows countries to track the progress of their local DRR strategies.

It is also a key component of the SFDRR. By tracking this indicator, countries can ensure that they are meeting the requirements of the SFDRR and making progress towards reducing disaster risks.

The respondent from Seychelles stated that the government supports local DRR strategies and plans because of the disasters on their island. This is because Seychelles is a small island nation and is particularly vulnerable to natural hazards such as hurricanes and floods, which caused disasters. The government is keen to ensure that locals are as prepared as possible for these events so that they have invested in developing a range of DRR strategies and plans. The need for governments to protect their citizens from the dangers posed by disasters was emphasized in the SFDRR. This can be accomplished through the creation and implementation of DRR regulations (Bang, 2021). The SFDRR emphasizes the importance of government action in

mitigating the risks of disasters. This includes the development of policies and regulations that are tailored to specific disasters, as well as the establishment of systems to support the enforcement and implementation of those regulations.

The respondent from Malawi stated that the problem lies in the government's lack of implementation and poor support to local DRR strategy. The Malawian government has been slow to take the necessary steps to implement it and has not invested in infrastructure and the resources needed to respond to disasters especially local level. All respondents agreed that governments need to come up with a real-world action plan rather than just paperwork dealing with the implementation of DRR strategies at the local level. All the respondents felt that paperwork was not enough to tackle the pressing issues of the moment and bring about real change. All respondents believed that governments must create a tangible plan of action that can be implemented quickly and effectively, especially at the local level where people are highly affected by the disaster impacts.

The SADC secretariat said that some MSs like Botswana, Mozambique, South Africa, and Zambia, had climate change, flood, and drought policies and strategies that linked with DRR strategies. This means that these countries have been able to reduce their vulnerability to disasters by implementing policies and strategies that address both climate change and DRR. All of the people who responded stated, that the strategies show the right institutional arrangements that could make it easier for countries to share programming for DRR and climate change adaptation. All respondents noted that these strategies could provide a platform for collaboration between the public and private sectors and the exchange of resources, technologies, and best practices. It would also help reduce overlapping efforts and create more efficient solutions for DRR and climate change adaptation.

A considerable amount of literature has been published on DRR strategies to manage residual hazards, reduce existing risks, and prevent new disaster risks to strengthen resilience and reduce disaster losses (UN, 2016). These studies focus on building the capacity of individuals, communities, and nations to prepare for, respond to, and recover from shocks and stresses in a timely and efficient manner. It also enables them to reduce the vulnerability of their systems and assets to potential disasters. By investing in DRR strategies, we are helping ensure that people, communities, and nations are better equipped to manage and overcome disasters, ultimately reducing their risk of future disasters.

Concerning the existence of decentralized strategies, all respondents shared similar viewpoints. They agreed that decentralized strategies can be effective, but also that they can be difficult to implement and require significant resources. They also agreed that centralized strategies can be

more efficient in certain situations. Ultimately, the consensus among the respondents was that decentralized and centralized strategies have their place in an effective overall strategy and should be approached with care and consideration. The SADC secretariat thought that governments are not decentralizing DRR strategies sufficiently. This is because most DRR strategies are managed at the national level and do not reach the local and community levels. This means that local and community levels are not adequately prepared to respond to disasters.

Effective decentralization of DRR, the participation of political leaders and decision-makers, and the development of institutional capacities are also highlighted in the previous literature (Van Niekerk, 2015; Nyandiko, 2020). This emphasizes the critical importance of adequate and well-structured governance structures for disaster management initiatives to succeed. Decentralized disaster risk management systems are generally regarded as more effective than top-down national approaches, which may strengthen power structures at the top and divert attention from local initiatives and concerns. According to Amaratunga et al.(2019), decentralized methods can help with inclusive disaster risk management, better identification of people's needs, bottom-up planning, and empowerment of the local population. These methods facilitate a holistic approach to disaster risk management, as local communities can be made aware of their particular vulnerabilities and strengths and use that knowledge to plan for disasters. Furthermore, it enables local stakeholders to be involved in the decision-making process, allowing for greater buy-in and ownership of the decisions that are made.

In general, the SADC region is seeing an increase in DRR policies and strategies. This is due to the increasing frequency of extreme weather events and other climate-change-related disasters experienced throughout the region (Nemakonde et al., 2017). These events are having a major impact on the region's economy and infrastructure, and DRR policies and strategies are seen as effective ways to help mitigate the impacts of disasters. In summary and conclusion, the 2018 SADC Biennial Report found that many MSs have re-examined their national policies, plans, and legislation for disaster management, emergency management, and civil protection since 2005. As a result, MSs have strengthened their capacity to prevent, respond to, and recover from disasters, as well as mitigate the impacts of climate change. The report found that MSs implemented a comprehensive approach to DRR and climate change adaptation, which includes a range of programmes, initiatives, and projects.

4.4 Existence of monitoring and reporting mechanism

The DRR strategy ought to identify the correct targets and indicators, and these can be informed by responses to the research question. This will allow stakeholders to have a clear understanding of the goals of the strategy and the progress that has been made. It will also encourage

accountability and ensure that the strategy is being implemented as intended. Additionally, it will enable stakeholders to monitor if changes need to be made to ensure that it is successful.

All respondents agreed that SFM developed a monitoring system for reporting all disasters (see section 2.7). All respondents agreed that it provides guidance and tools on how to monitor, evaluate, and report on progress towards the achievement of the SFDRR goals. All respondents further stated that it enables governments and stakeholders to track their progress and identify weaknesses in their risk-reduction strategies. SADC secretariat said that SFM gives rise to effective and timely reporting of disasters and provides clear guidance on how to identify and address weaknesses in risk reduction strategies. The respondents stated that, since the SFM's launch in March 2018, UNDRR has been supporting MSs in the implementation, monitoring, and progress reports around DRR.

DesInventar-SFM, which is managed by the UNDRR, was chosen by the UN because it is the official database for reporting progress towards the SFDRR targets and indicators. The UNDRR is the United Nations Office for Disaster Risk Reduction, and they have developed several disaster risk reduction tools, such as DesInventar. DesInventar is the official database for reporting progress towards the Sendai Framework for Disaster Risk Reduction (SFDRR) targets and indicators, which is why it was chosen by the UN. One respondent from Botswana stated that the DesInventar-SFM provides a standardized platform for tracking and reporting disaster risks, losses, and impacts, as indicated, and is accessible to all stakeholders. This makes it easier to analyse disaster trends and develop evidence-based strategies for prevention and risk reduction. By offering a single, unified platform for collecting, comparing, and analysing data, DesInventar-SFM allows policymakers and practitioners to quickly identify emerging risk trends and develop effective strategies for reducing them.

A small number of those interviewed indicated that DesInventar-SFM offers a straightforward and uniform method for collecting, storing, analysing, and displaying information on losses caused by disasters, and it is being adopted by more nations worldwide according to extant literature (see section 2.7). This is because the DesInventar system provides a comprehensive platform to store and analyse data on disasters, making it easier for governments to track and respond to these. Additionally, it is a user-friendly and cost-effective tool for smaller countries with limited resources.

The SADC secretariat has said that SADC MSs are using the UN tracking system to check the progress of implementation of the Target E of the SFDRR. These MSs include Angola, Botswana, Eswatini, Malawi, Namibia, South Africa, and Tanzania, where they reported to the SFM in the year 2020. However, the following year there was a decrease in reports to SFM, due to the COVID-19 pandemic.

Khoza et al. (2022) established that some nations are unable to report progress on Target E of the SFDRR. This is due to disparities in access to resources such as data and monitoring systems and a lack of technical capacity to measure and track progress. Additionally, there is a need to strengthen the institutional capacity to use data and other evidence to inform decision-making. As a result, it is critical to prioritize investments in data and monitoring systems to ensure that all nations can track, measure, and report on progress towards the SFDRR's objectives.

Respondents agreed that countries will be able to better respond to changes in the internal and external environments, meet the principles of sustainable development, and be part of the national development strategy if review and monitoring mechanisms are effective and inclusive. This means that, if countries have effective and inclusive mechanisms for collecting and analysing data, they will be able to understand their current situation, identify potential issues, and develop strategies to address those issues more effectively and sustainably.

Since most plans have only recently been approved, and monitoring and reporting on their implementation are still in progress, all respondents stated that there is little information available on the impact of SFDRR-aligned strategies on the ground in the SADC region to reduce disaster risk. The respondents agreed that the development of the SFDRR plans is a positive step forward, but they cautioned that the plans alone will not be enough to reduce the risk of disasters in the region. They noted that the plans need to be implemented properly and monitored to ensure that they are delivering the desired outcomes.

4. 5 Progress in the implementation of DRR strategies

The SADC secretariat felt that the MSs are making progress towards putting the DRR strategies into action. The overall response to this question was very positive all respondents reported an increase in the number of MSs that adopt DRR strategies and plans. All respondents expressed the belief that as well an increase in the number of initiatives and programmes implemented to reduce the risks of disasters. However, the SADC region has also experienced an increase in economic losses due to disasters such as droughts, floods, and wildfires in recent years. For instance, in 2017, South Africa experienced a significant increase in wildfire losses due to the Knysna fires, which mostly affected high-income properties that were mostly insured.

According to the SADC secretariat, local and national governments are not adequately implementing DRR programmes. The majority of those who responded to this item share the same sentiments. Respondents were asked to suggest other reasons for this lack of progress implementation. The response from respondents was because of the lack of awareness of the benefits of DRR programmes, while the resources needed to implement them are not always

available in most countries. As a result, many governments do not prioritize DRR programmes and fail to act. Additionally, the failure to prioritize DRR programmes has had devastating consequences: many vulnerable communities across the SADC region have been suffering from the impacts of disasters.

To be able to track progress around implementing the SFDRR at the national level, it is essential to establish a set of specific, measurable, achievable, relevant, and time-bound (SMART) objectives in advance, according to the Open-ended report Intergovernmental Expert Working Group (OIEWG, 2016). This will help ensure that the SFDRR is being implemented effectively and efficiently and that the goals set out in the SFDRR are being achieved within the specified bounds of time. SMART objectives also provide a way to measure progress allowing governments and stakeholders to identify areas of success and areas that need improvement.

The respondent from Botswana stated that, despite their development, nations do not have DRR strategy implementation plans. This may well be because the country has limited resources, so it is difficult for them to create and implement a comprehensive DRR plan. Additionally, many countries do not have the capacity or expertise to develop such plans. However, it is also possible that some nations are simply not prioritizing DRR strategy implementation, and this could be due to a variety of reasons. For example, some nations may not view DRR as a pressing issue, or they may not have the political will to invest in such plans. The majority of those who responded to this item gave examples of governments struggling to deal with the COVID-19 pandemic despite having DRR strategies in place. Governments complied with the measures that countries enacted and carried out. The strategies, however, were not enough to mitigate the rapid spread of the virus, and governments found themselves struggling to keep up with the increasing cases and the need for more resources to cope with the pandemic,

The SADC secretariat thought that reducing disaster risk in SADC is still a work in progress and that there is a political movement in the region to support DRR strategies. This opinion was formed after SADC had conducted assessments of the risks posed by climate change in the region and found that, while there had been some progress, there was still much work to be done. SADC also noted that there is growing political support for DRR strategies in the region. According to the literature (see section 2.5), a lack of human resource capacity, a lack of policy understanding, a lack of coordination among various government agencies, and inadequate funding all contribute to the failure to implement DRR strategies. These factors can lead to a lack of capacity for implementation, a lack of understanding about the potential risks, and a lack of resources to put the strategies in place. This can make it difficult for governments to effectively prepare for and respond to disasters.

The implementation of DRR strategies by the SADC secretariat must be encouraged at the local level because local people are the most vulnerable and can use indigenous knowledge about DRR. Emphasis should be placed on the local-level implementation of DRR strategies, as this is where people are most exposed to the impacts of natural disasters. In addition, the secretariat states that the people's constitutional right to protection obligates governments to engage at local levels. This means that governments must ensure their citizen's access to services and resources that can help them protect their rights. They must also make sure that their laws and policies promote the protection of their citizens' rights.

The SADC secretariat was not fully persuaded that DRR is being integrated into development plans and policies in the region. It said that this is due to the lack of empirical evidence to demonstrate that DRR is being effectively implemented and the limited capacity of SADC MSs to mainstream it into their development plans. For example, the lack of harmonized DRR policies and the limited capacity of SADC MSs to effectively engage in DRR planning, implementation and monitoring were identified as key challenges to the integration of DRR into development plans. In practice, their application falls far short of expectations. This is often because the underlying assumptions that are made when designing or implementing the technology do not reflect real-world conditions or because unanticipated difficulties occur when it comes to implementation.

According to existing research, SFDRR provides national governments with an opportunity to enhance their capacity to manage disaster risk across all sectors and at all scales (see section 2.3). SFDRR is an integrated approach to disaster risk management that seeks to reduce the underlying risk factors and enable countries to build their resilience to disasters. It involves the development of policies, plans, and strategies that consider all aspects of a country's disaster risk, including its physical, social, economic, and environmental aspects.

However, all respondents had doubts about how the DRR commitments would be carried out, citing either little or no government commitment. This suggests that, even though the government claims to be committed to DRR, the government was not actively pursuing it and that there are insufficient resources and support to achieve the commitments.

All respondents expressed concern that a significant portion of the foreign funds provided for DRR is frequently used for other purposes. This is due to a lack of effective strategies to ensure proper implementation of and accountability for the funds. In addition, a lack of understanding exists about the actual risks and needs of the local communities in SADC, which makes it difficult for the government to effectively allocate resources for SFDRR. There is a large volume of published studies of SFDRR, describing the role of governments to invest in risk transfer and financial protection mechanisms to lessen the financial costs of disasters and accelerate recovery after

they occur (UNDRR, 2015). Such investments can help protect the most vulnerable communities, which are often the most affected by disasters yet least able to access the resources needed to recover. Furthermore, by investing in risk transfer mechanisms, the costs associated with disasters can be spread out more evenly, which will reduce the overall burden on governments.

According to the Eswatini respondent, Disaster Management Agencies, and a department in his country influence DRR funding. The agency is responsible for responding to disasters, and the department for developing strategies to mitigate risks and prevent future disasters. The two organizations work together to ensure that DRR funding is allocated to areas of greatest need.

According to all respondents, disaster risk management issues need to be taken seriously inviting a situation where implement risk reduction and response programmes are allocated to ministers or the highest political decision-makers. This is because risk management issues have a direct impact on people and, thus, decision-makers are more likely to give them priority and take action. Additionally, high-ranking officials are in a better position to allocate resources and coordinate response efforts. Additionally, political support is required to fill in the legal voids that are discovered and the unwillingness of MSs to finance DRR. This is based on the belief that political support is needed to ensure that the necessary legal framework is established so that MSs could finance effective DRR measures. Therefore, MSS need to rally political support to guarantee the implementation of effective legal provisions that would enable them to finance DRR activities.

In addition, the respondents from Seychelles state that a variety of players, including DRR practitioners and civil society, would need to lobby and advocate around raising awareness and engaging political decision-makers and policymakers. This is because the political decision-makers and policymakers are the ones who have the power to set policy and allocate resources that can help to build resilience to disasters. Without their support, it is difficult for DRR practitioners and civil society to make progress in the matter. All respondents believe that increased engagement would help raise DRR funding. Increased public engagement in DRR can help raise awareness of the issues and motivate people to donate to the cause. It can also help create a more positive image of the sector, which could lead to greater support from governments and international organizations.

Good governance, transparency, and a lack of clarity regarding how the funds are used after they have been received are all mentioned by all respondents. This indicates that there is a lack of trust in the government to properly use the funds they were receiving, leading to a lack of confidence in their ability to govern effectively. Respondents emphasized once more the necessity of legislation that specifies precisely how DRR will be paid for at all levels of government. This sentiment was echoed throughout the survey, illustrating the urgent need for

policymakers to make a clear financial commitment to DRR. They asserted that legislation is required to establish financing for DRR and sectoral participation in it. Without legislative action, there is no clear way to fund DRR initiatives, and it will be difficult to get all the different sectors involved in DRR to collaborate. The legislation would set out a framework for financing and sectoral participation making it easier to coordinate efforts and ensure everyone is doing their part.

The SADC secretariat emphasized the significance of legislation around ensuring that DRR receives adequate funding. It noted that laws and regulations play an important role in allocating sufficient resources to DRR initiatives, as these can help ensure that the necessary funds are available and used effectively. Furthermore, laws can also provide an incentive for governments to meet their obligations, such as providing financial support to DRR initiatives. For example, in Malawi, the Malawi Growth and Development Strategy (2012-2016) and the subsequent Malawi National Resilience Strategy (2018-2030) shifted the focus from response and recovery to DRR and community resilience. Because it ensures that the policies are implemented and taken into action, legislation is necessary. Without legislation, there is no guarantee that the policies will be enforced. Without enforcement, the policies will be ineffective and will not be able to bring about the desired results.

DRR needs to be incorporated into other global, regional, and local development efforts, and existing or forthcoming legal frameworks need to emphasize this, according to all respondents. This sentiment was echoed across the board, asserting that DRR should be prioritized in all settings and that legal infrastructures should strongly reflect this.

According to Botha and Van Niekerk (2013), they established that institutions struggled with DRR funding, particularly when there were concerns about local governance issues. For example, many projects were initiated by external aid organisations and then handed over to the local government, but due to inadequate local government capacity. This was attributed to the lack of trust in local institutions caused by a lack of transparency and accountability as well as a lack of local capacity and resources. As a result, donors were unwilling to fund DRR projects due to concerns about how the funds would be used.

All respondents also emphasized the significance of disaster (risk) management institutions that play an active coordinating role in terms of plans for all stakeholders that directly or indirectly fund DRR projects, which is consistent with their opinions regarding sectoral budgeting for DRR. For example, the respondents expressed that the institutional coordination of DRR plans should involve a ministry of finance, a ministry of disaster management, and other ministries and departments. Institutions that focus on physical planning and infrastructure development, for

instance, were regarded as crucial when it comes to promoting DRR finance with a view to integrated development planning because they typically receive funding for DRR-related projects directly from the national treasury.

When asked how progress is reported, the overall response to this question was poor. Many respondents felt that risk reduction communication systems lack transparency and do not provide a comprehensive overview of progress. Additionally, they do not provide a clear way to measure performance and success. The media's coverage and inability to translate the message into local languages limit their usefulness in fostering effective public sensitization to DRR, even though they can assist in raising public awareness of risks and DRR interventions. Without the ability to communicate in the right language to a local population, the media's messages can be misinterpreted or ignored. Additionally, the media may not be able to adequately assess and report on the local context and nuances of the area, which can lead to inaccurate messaging or a lack of understanding of the risks and DRR interventions needed.

The SFDRR emphasizes that national authorities should foster collaboration at all levels among a variety of institutions and stakeholders, including affected communities and the business community (UNDRR, 2015a). This is based on the idea that a multi-stakeholder approach is necessary to address the complex challenges associated with DRR. It should invite multiple perspectives for reflection, and different types of knowledge and expertise must be combined to create the most effective solutions for DRR. Thus, a multi-stakeholder approach ensures that all potential solutions are explored, and that the best possible outcome is achieved.

4.6 Main challenges that need to be addressed in the strategy

All respondents held that many countries have trouble putting their DRR plans or strategies into action. This is due to a lack of understanding of the risks associated with disasters and the resources needed to implement any strategies. Additionally, many countries lack the infrastructure and financial resources to set up and maintain effective DRR plans and strategies. However, some countries do put their DRR plans into action. These have been able to do so by allocating the necessary resources and by working with the community to raise awareness about disaster risks. The SADC secretariat holds a similar view, that lack of implementation can be ascribed to various factors. These include a lack of access to financial resources and a limited capacity to create a conducive business environment that encourages investment.

All of the respondents indicated that some DRR plans, and strategies are too broad to be used as guides for specific actions. This is because DRR strategies are often created at a high level and are not tailored to the specific needs of a particular community or location. As a result, they

may not provide the practical guidance needed to take meaningful action in the event of natural hazards. All respondents expressed the belief that the absence of timely multi-sectoral agreements, adequate budgets and institutional arrangements and guidelines could offer one possible explanation for these difficulties. Without these agreements and institutional arrangements in place, there is no unified plan on how to approach the problem, no guidelines on how to allocate resources, and no budget to fund the necessary activities. This can lead to inefficiencies and delays in addressing the issue, resulting in difficulties.

Nyandiko (2020) has established that the limited resources devoted to DRR in SADC MSs evidence the low priority that decision-makers give to DRR and a limited understanding of disaster risk. This highlights the need for increased investments in DRR and improved knowledge of disaster risk in the SADC region, both of which are essential for building resilience to disasters in the region.

The respondent from Seychelles stated that DRR strategies are poorly managed. For example, most of the strategies implemented do not have a clear timeline, which makes it difficult to measure the success of the strategies and adjust them accordingly. All respondents noted that there is a lack of funding, inadequate coordination between government agencies, and a lack of public awareness of the risks. Even though general financial management systems exist to guide government departments, all respondents believe that there are no existing funding mechanisms and systems specifically for DRR in the majority of MSs. As a result, respondents argue that there is a need for greater clarity and coordination of DRR financing, which could take the form of a dedicated DRR fund or budget line. This would ensure that DRR is properly funded, integrated into other sectoral investments, and monitored for effectiveness.

It has also been established that, in several nations, including South Africa, where the DRR policies are somewhat inclusive, inadequate institutional capacity and persistently poor governance are preventing their implementation, rendering them ineffective (Van Niekerk, et al., 2020; Van Niekerk, 2015). This highlights the need for greater focus on strengthening institutional capacity and governance to ensure the effective implementation of DRR policies in these countries.

The majority of respondents stated that government structures lack coordination and that departments are working in silos in a disorganized manner. This lack of coordination among departments has caused inefficiencies in the system leading to a lack of progress on important issues. In addition, it has caused issues around communication resulting in the fact that departments are not able to work together as effectively as they should. A problem that must be

resolved is the existence of silos among departments with various mandates, types of technical expertise, and responsibilities for various hazards.

According to all respondents, the siloed approach to risk management can lead to a fragmented view of the hazard landscape. This can give rise to inadequate risk assessments and risk management as well as hazardous events that may occur. The competing Ministerial mandates, according to all respondents, impede efforts to accelerate the DRR strategy's implementation. Different ministries are responsible for different aspects of the DRR strategy, but the lack of coordination among them means that implementation is slow and inefficient. This can lead to delays and confusion making it difficult to make progress with the strategy.

DRR strategies do not receive sufficient political support according to all respondents. This is because they require a long-term commitment from governments and an investment of resources in DRR measures, and many governments may not be willing to make that commitment. Furthermore, DRR strategies often involve a shift in priorities away from short-term gains towards long-term sustainability, which may be difficult for political leaders to accept.

all respondents claim that the SFM lacks data validation that would have made it much simpler to continue reporting on DRR. Without data validation, users can input information that is not accurate or up to date leading to a lack of accuracy and reliability. SADC must accelerate activity and allocate resources to achieve Target E of the SFDRR. Target E encourages the development of national disaster risk management strategies that involve the integration of risk reduction, vulnerability reduction, and climate resilience. Without proper resources and coordination, these strategies cannot be implemented effectively. The discrepancies found in data between the two databases, that is, UN-Stats and SFM, further evidence this, as does extant literature (see Sections 4 and 5). According to Khoza et al. (2022), the general public does not have easy access to SFM data. According to the Status Report on Target E Implementation,(2020), some data may have been entered into the SFM but, because these had not yet been validated, they could not be used in the analysis. This indicates that the data was incomplete, meaning that it had not been examined and approved for accuracy, making it thus unreliable.

The problem that the SADC secretariat mentioned is that not all officials in disaster management centres, particularly those at the provincial, district, and local levels, are aware of Target E of the SFDR and what it entails. This occurs because the SFDR does not have a comprehensive training and capacity-building strategy for such centres, which would have allowed for the dissemination of information about Target E and other relevant information. The SADC secretariat suggested that countries need to be equipped or share information about the SFDRR and its purpose. This is to ensure that all countries in the region are well aware of the SFDRR and its purpose, which

is to reduce the mortality, economic losses, and environmental damage caused by natural disasters, as indicated.

The SADC secretariat claims that a proper whole-of-society approach to the development, implementation, and monitoring of DRR strategies is hindered in some MSs by the absence or limited availability of multi-stakeholder and inter-sectoral coordination mechanisms for DRR at the national level. This means that, without a coordinated effort among different stakeholders and sectors such as government, NGOs, and private industry, the development and implementation of DRR strategies are likely to be ineffective. Consequently, the DRR approach has received little support from society as a whole, particularly local communities, who are also unaware of their role and the behaviour expected of them. This lack of understanding has resulted in a lack of commitment to the DRR approach limiting its effectiveness and its potential to ensure community safety.

4.7 Triggers for reviewing existing strategies

All respondents were asked to think of other reasons why existing strategies should be updated. This was necessary, because strategies that are no longer relevant to the current situation may no longer be effective. Additionally, strategies that have become outdated may be obscuring new opportunities that have emerged for DRR. MSs need to meet the requirements of Target E of the SFDRR and other international conventions according to all respondents. This is done using a periodical review of countries. Countries are regularly taking the necessary steps to ensure their MSs are up to date with the latest regulations.

The SADC secretariat and participant MSs identified the need for a new strategy that will be able to address changes in the internal and external environments. The strategy is intended to provide a framework for MSs to coordinate and collaborate on initiatives and actions that will enable them to respond more effectively and efficiently to the changing needs and demands of the region. It will also ensure that the SADC Secretariat can provide effective guidance and support to MSs in their efforts to address the challenges and opportunities arising from the changing environment. The Malawi Draft Disaster Risk Management Bill, 2019 was cited by the SADC Secretariat (see section 3.1.6) as a mechanism that could help achieve this. This bill is an important piece of legislation for Malawi and the surrounding region and has been identified as such by the secretariat.

The idea of developing risk-informed policies that consider resilience and lessen vulnerability to disaster risks was supported by the secretariat. This is because these policies would help to ensure that the region's development efforts are not undermined by disaster risks, which can have

devastating impacts on vulnerable populations as well as the economy. According to the Eswatini respondents, enacting new legislation could result from reviewing existing DRR strategies or plans. All respondents responses indicated that the existing DRR strategies or plans can be used as references or benchmarks for assessing gaps and identifying areas in need of improvement. This could lead to the enactment of new legislation to fill the gaps and ensure that the DRR strategies or plans are up to date.

The overall response to this question was positive, in the sense that strategies or plans can help the process of legal reform by providing details for how new, more ambitious laws will be implemented. With a wide range of opinions, it was clear that the majority of participants agreed that strategic planning can help legal reform move forward and benefit society. Strategic planning should include an analysis of the current situation and the external environment, identification of desired objectives and outcomes, an assessment of resources and capabilities, and the development of a plan to reach those objectives. The form of strategic planning should be tailored to the specific needs of the organization and could include anything from a simple document to a complex strategy map.

4.8 Summary of the Findings

To respond to the study's research questions, this chapter unpacked the project's data analysis and interpretation. This included examining the data to identify patterns and trends, forming conclusions based on the data, and interpreting the results in the context of the research questions. Botswana, Eswatini, Malawi, Seychelles, and the SADC Secretariat were among the respondents, as indicated. These countries and the SADC secretariat are particularly important stakeholders in DRR and SFDRR so their responses to the research provided valuable insights into the effectiveness of DRR and SFDRR implementation.

The literature has demonstrated that SADC MSs have made a formal commitment to developing DRR initiatives and policies. This is in line with SFDRR, which calls for the establishment of national and local DRR strategies, as indicated. The results show that the SADC MSs have taken steps to meet these requirements.

The goal of the research was to find out which respondents knew about DRR strategies and SFDRR 2015-2030, in particular, it concerns the implementation of Target E. The research used a survey to determine respondents' knowledge of DRR strategies and SFDRR 2015-2030, in particular Target E, to determine whether there is a correlation between knowledge and implementation. Additionally, the research aimed to understand the underlying factors that could be causing any gaps in implementation. To gain a further understanding of this correlation, the

study also investigated the social, political, and economic context that may potentially influence the implementation of DRR strategies and SFDRR Target E.

This would help inform decision-makers about the most effective strategies for implementing it. All respondents recognized the significance of the DRR strategies and the SFDRR 2015-2030 in their respective nations. However, they noted that implementation of the DRR strategies not all countries are implementing DRR strategies according to the Target E of the SFDRR. This is because some countries do not have the capacity or resources to implement the strategies, while others lack the political will to do so. Additionally, some countries may have different priorities that supersede DRR implementation. This is due to a combination of factors such as inadequate funding, lack of trained personnel, weak coordination and collaboration between government agencies, and insufficient public awareness. Furthermore, some countries may be facing more immediate threats or have limited resources, making DRR a lower priority.

The analysis of the data shows that DRR plans, and policies are in place in the SADC region. For instance, Mozambique has a National Disaster Risk Management Policy that outlines the country's approach to DRR. However, research has shown that policies are not coordinated properly for several reasons, including a lack of political support and allocation of funds. As a result, many policies that could be beneficial are underfunded or not funded at all, leading to a lack of implementation and ineffectiveness. This can further lead to gaps in the system, especially when it comes to addressing social and economic issues.

Despite the region's outstanding challenges, these findings indicate that SADC MSs are making efforts in implementing Target E of the SFDRR through developing DRR strategies, monitoring, and reporting. In addition, the study highlights the need for SADC MSs to increase the capacity of their key players to ensure that risk-informed policies, strategies, and solutions are effectively implemented and sustained in the long term. However, there is work to be done for SADC MSs to fully meet the requirements of Target E of the SFDRR. Target E of the SFDRR is to increase the number of people living in multi-hazard resilient and sustainable communities. This means reducing vulnerability to disasters and climate change, increasing access to basic services, and strengthening the capacity of individuals, households, and communities to prepare for, respond to, and recover from disasters. It also involves promoting gender equality and the empowerment of women and girls, as well as ensuring that decisions are made in an inclusive, participatory, and transparent manner. Through this, communities can be better equipped to anticipate and minimize the impact of disasters, while making sure the most vulnerable members of society are not left behind.

Gender, disability, and age-sensitive monitoring of Target E implementation as well as the SFDRR as a whole is impossible in some nations due to the limited disaggregation of data caused by a lack of policy decision on data management or a lack of clarity therein. Without disaggregated data, governments are unable to monitor the progress of their Target E implementation and the SFDRR in general. This makes it difficult to assess the effectiveness of the policies and identify areas that need further improvement.

Limited access to and the sharing of national data by governments can be a problem in some countries and regions where transboundary risks and hazards are prevalent. This is not only a missed opportunity to address transboundary risks in a manner that is mutually supportive and collaborative but also a major obstacle to the efficient implementation and monitoring of all of the SFDRR targets, including Target E. This is because national data sharing is often limited by cultural, legal, and political boundaries.

Additionally, there is a lack of resources and capacity to share data across borders, as well as a lack of trust among states when it comes to sharing data. Without access to high-quality and timely data, it is impossible to adequately identify, assess and respond to transboundary risks and hazards. The systematic engagement of core stakeholders and a proper whole-of-society approach to the design, implementation, and monitoring of Target E of the SFDRR are hindered in some nations by the absence of multi-stakeholder and inter-sectoral coordination mechanisms for disaster risk reduction at the national level. This lack of coordination makes it difficult to ensure that all stakeholders are engaged in the process and that their perspectives are heard and considered. This can lead to a lack of consensus on the direction of the policies and a lack of accountability for their implementation.

In particular, SADC MSs need to improve their ability to monitor and report on progress and develop and implement effective solutions to remaining challenges in risk management. This is because SADC MSs need to be able to accurately report on their progress to ensure that their risk management strategies are effective and that any remaining challenges can be addressed before they cause further damage. Additionally, having effective ways to monitor and report progress will help to ensure that SADC MSs can stay on track with their disaster risk reduction objectives.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter focuses on recommendations and the conclusion of the study. The recommendations are based on a summary of the study's findings and suggest areas for further research. The conclusion offers a summary of the entire study, including, data collection once more, the main findings and implications for future research. This involves summarizing and drawing conclusions from the data that had been collected, as well as providing insights into the implications of the results and possible implications for future research. Additionally, the chapter looks at how the findings can be used to inform decision-making and suggest strategies for further development.

To draw an impartial conclusion and consistently establish stability and validity, analysis is essential. By conducting a thorough analysis of the relevant variables, it is possible to gain an understanding of the patterns and trends present in the data. Through this process, it is possible to identify correlations between the variables, detect outliers, and draw meaningful conclusions from the data. This can then be used to make predictions about future outcomes or to inform decisions and policies.

By utilizing these insights and findings, it is possible to inform decisions and policies, predict future outcomes, and create solutions to existing problems. The data are presented to illustrate obstacles in the way of SADC's implementation of Target E of the SFDRR strategies, as well as their progress. Through this evaluation and explanation, the data will elucidate the implementation of the strategies and the progress and obstacles faced by the region. This will, in turn, facilitate enhanced decision-making and problem-solving when it comes to Target E. As a result, it will be possible for SADC countries to pinpoint and address the challenges of achieving the SFDRR objectives with greater accuracy and advance towards the realization of Target E of the SFDRR.

The conclusions of the chapters centre on a summary of the main themes and serve as guides for what is required for the implementation of Target E of the SFDRR in SADC MSs. These conclusions provide a better understanding of the current state of DRR in the SADC region, as well as an overview of the different elements that need to be taken into consideration to implement Target E. This understanding can help to inform the strategies and interventions necessary for the region to achieve Target E and can provide a basis for countries to review and update their national DRR plans. As such, it is essential to ensure that DRR plans are up-to-date and tailored to the changing needs of the SADC region to reach the ambitious goal of Target E by 2030. The following section begins with a synopsis of the study's chapters.

5.2 SUMMARY OF PRECEDING CHAPTERS

The study's chapters are organized in a way that is consistent with the research problem and goals. Each chapter builds on the knowledge gathered in the preceding one, helping to establish a strong foundation for the research. The chapters are also organized in a logical and chronological order, making it easy for readers to follow and understand the research. The study was introduced in Chapter 1 along with a brief description of SFDRR's Target E. The research methodology that was used to successfully address each of the four study objectives is briefly unpacked in Chapter 2. In Chapter 3, a comprehensive research methodology is described.

SFDRR policies and strategies are the focus of Chapter 2, which embodies the first part of the literature review. The literature review concluded that, despite the efforts made by SADC MSs to implement DRR strategies, more work needs to be done to align them with SFDRR's Target E. Chapter 2 emphasizes SADC MSs' inconsistent implementation of DRR strategies.

The methodology of research is the focus of Chapter 3. The research used mixed methods to get the necessary data by looking at well-known disaster databases and adding data to these. The study's findings, which were analysed in light of the study's subject matter and goals, are presented in Chapter 4.

5.3 ACHIEVEMENT OF THE OBJECTIVES OF THE STUDY

This study set out to evaluate progress on Target E of the SFDRR in SADC.

For the sake of probing the matter, four research objectives were constructed:

- i. To provide theoretical perspectives on Target E for SFDRR as adopted by the SADC region.
- ii. To evaluate achievements in the implementation of Target E for SFDRR by the SADC region.
- iii. To identify challenges that hinder the progress of implementing Target E for SFDRR.
- iv. To make recommendations to the SADC region based on the findings of the evaluation.

5.3.1 Objective 1: To provide theoretical perspectives on Target E for SFDRR as adopted by the SADC region.

The first objective is addressed in Chapter 2 of the study. It offers an overview of the existing SFDRR strategies in the SADC region. The discussion is associated with countries that have or do not have DRR strategies, ongoing implementation, and alignment with target E of the SFDRR.

The literature demonstrates that 15 of 16 SADC countries have DRR strategies and that only the Democratic Republic of Congo does not.

5.3.1 Objective 2: To evaluate achievements in the implementation of Target E for SFDRR in the SADC region

This research objective is achieved through a thorough analysis of the literature, as found in Chapter 2. This outlines the importance of DRR strategies in the SADC region and whether it does involve an achievement per country in the SADC region.

5.3.4 Objective 3: To identify challenges that hinder the progress of implementing Target E for SFDRR.

The findings in Chapter 4 respond to this objective. These show that many challenges are encountered in the implementation of DRR strategies. Respondents from four different SADC regions and the SADC Secretariat as well as extant research show that many countries are faced with challenges when it comes to the implementation of their DRR strategies. There is a lack of adequate budgets, political support, institutional arrangements, guidelines, and clearly defined role and responsibilities.

5.3.4 Objective 4: To make recommendations to the SADC region based on the findings of the evaluation.

This objective is the focus of Chapter 5, where recommendations will be made concerning the implementation of the Target E of the SFDRR, as itemised immediately below. This is consistent with the theory offered in sections 2.4 and 2.5, which indicates that MSs of the UN have agreed to revisit their nations' current plans and strategies for reducing disaster risk as required by Target E of the SFDRR 2020.

5.3. RECOMMENDATIONS

Introduction

The SADC MSs must take the SFDRR seriously if they want to achieve Target E of the SFDRR. To achieve this target, the SADC MSs need to ensure that their policies, plans, and investments are in line with the SFDRR. The purpose of the present chapter is to offer suggestions based on the research results, chapter-by-chapter conclusions, and other information.

These suggestions are meant to provide insights, ideas, and strategies for addressing the issues discussed as well as prompt consideration of new possibilities for the future of research.

5.3. 1 It is essential to engage and capacitate disaster management centres at the local, district, and provincial levels to increase action around the SFDRR's Target E. This will create a strong, coordinated response system and ensure that local communities have the resources they need to adequately prepare and respond to disasters. It will also help to ensure that there is a unified approach to disaster management, which will lead to better and more effective outcomes.

5.3. 2 Disaster management centres working together with academic institutions will capacitate the members of the advisory forums about SFDRR. Those members are not aware of this framework. The members of the advisory forums often come from rural areas and are not exposed to information about SFDRR. Hence, the centres, in collaboration with academic institutions, must provide training and seminars to educate members about the framework so that they can effectively give advice and make decisions.

5.3.3 The universities should involve their postgraduate students (interns) in conducting biennial workshops on the SFDRR in their countries. Postgraduate students are not only familiar with the research being conducted by the universities but can also provide valuable feedback and insights into the implementation of the SFDRR. Furthermore, they are also more likely to be up to date with the latest technological advancements and developments in the field, which can be beneficial for DRR institutions.

5.3.3 Funding is necessary: however, it needs to be given to a departmental section that is advocating for public awareness about SFDRR. This is necessary because SFDRR is a global issue that needs to be addressed for communities to be better prepared for disasters. 5.3.5.4 Government employees ranging from assistant directors to chief directors, need to include mandatory DRR strategies and be assessed for performance around this. This is important, because disasters can have severe economic and social impacts, and it is vital to have a plan in place to reduce the risk of these. In addition, government employees need to be appropriately assessed for their performance in this regard to ensure that the strategies are effective and implemented correctly.

5.4. Overall conclusion

Overall, this study has found that there has been some progress towards meeting Target E of the SFDRR in SADC. Specifically, the findings show that the SADC countries have achieved an increase in their capacity to manage disasters, with improved legislation, policies, plans and procedures in place, as well as increased investments in infrastructure and technology. However, some gaps need to be addressed to ensure that all SADC countries are ready to manage disasters and reduce risk. In addition, the pursuit of Target E of the SFDRR has contributed to improved awareness of the importance of DRR leading to increased political commitment and investments by governments and international donors. For example, the Target E of the SFDRR

has helped to ensure that DRR strategies are on the agenda of national and international development strategies, as well as in the Sustainable Development Goals. It has also helped to ensure that DRR is seen as an integral part of climate change adaptation and resilience-building strategies. This has resulted in increased investments in infrastructure, capacity-building and initiatives that promote DRR.

The study's results show that the main aim, objectives, and research questions were addressed adequately and that the conclusions are valid and reliable. The mixed methodology has been demonstrated to be a valuable tool for data collection that can provide a comprehensive view of the research topic. It was shown that it can also help to increase the validity and reliability of the data, as different methods of data collection can be combined to ensure accuracy. It was shown that sampling data collection should be carefully chosen to ensure that these are representative of the population studied. Finally, it was shown that validity and reliability should be examined to ensure that the data are reliable and valid and that the results are free from bias.

The SFDRR outlines the need for a comprehensive approach to DRR, including the implementation of early warning systems as well as the importance of strengthening national and local capacity to respond to disasters. It also emphasizes the need for building societal resilience, promoting risk awareness and risk-informed decision-making, and investing in risk management strategies. Furthermore, it recognizes the need for international cooperation and support, both in terms of finance and technical assistance, to ensure that countries can implement the strategies outlined in the framework.

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Annexure A: Research Ethics Training Certificate



Zertifikat Certificat Certificado Certificate

Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale
Promoting the highest ethical standards in the protection of biomedical research participants



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ANNEXURE B: DATA COLLECTION TOOL (QUESTIONNAIRE SAMPLE)

Is this the most recent DRR strategy?

Is your strategy aligned with Target E of the SFDRR?

Has your country developed a strategy in line with Target E of the SFDRR? (if yes was the strategy adopted? if not explain why they have not yet developed.

Who is responsible for DRR policy/strategy development?

Do you have decentralised DRR strategies? e.g., other ministries/departments and/or provincial/local?

In terms of governance implementation: who coordinates the implementation of various DRR strategies?

How is the progress of implementation be reported (and to whom)?

What are the indicators of reporting?

How often is the progress of implementation reported?

What are the main challenges/problems that need to be addressed in the strategy? (in risk and capacities) (problem challenges)

How will the strategy be endorsed, financed, and monitored during implementation?

Is there any monitoring, evaluation and reporting mechanism linked to the Target E of the SFDRR strategy implementation?

What may trigger an update to your existing strategy?