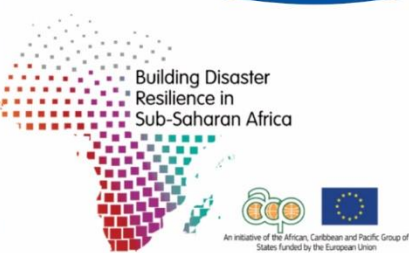




MAINSTREAMING DISASTER RISK REDUCTION IN THE AGRICULTURE, FOOD SECURITY AND NUTRITION SECTORS

March 2021



Implemented by/Mis en oeuvre par:



DOCUMENT INDEX

This document was developed in support of the program “Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities, which is financed by the co-operation between the African, Caribbean, Pacific Group of States, and European Union through the 10th European Development Fund Program which was launched in 2015. It is implemented along five result areas by several partners, including the African Development Bank, African Union Commission, the United Nations International Strategy for Disaster Reduction (UNISDR) and Global Facility for Disaster Reduction and Recovery / World Bank.

The series of documents are:

SECTOR MAINSTREAMING DOCUMENTS

SADC Mainstreaming Disaster Risk Reduction Guidelines

SADC Mainstreaming Disaster Risk Reduction in the Agricultural, Food Security and Nutrition Guidelines

SADC Mainstreaming Disaster Risk Reduction in Gender Guidelines

SADC Mainstreaming Disaster Risk Reduction in Education Guidelines

SADC Mainstreaming Disaster Risk Reduction in Infrastructure – Energy, Transport and Water Resources Management Guidelines

SADC Mainstreaming Disaster Risk Reduction in the Water and Sanitation Hygiene (WASH) Guidelines

Additional copies of this report, or other reports in this series, may be ordered from:

Executive Secretary Assistant: A. Banda

**SOUTH AFRICAN DEVELOPMENT COMMUNITY SECRETARIAT
SADC HOUSE
PLOT 54385
CENTRAL BUSINESS DISTRICT
GABORONE
REPUBLIC OF BOTSWANA
0001**

ACKNOWLEDGEMENTS

This Disaster Risk Reduction (DRR) Mainstreaming in Agriculture Food Security and Nutrition (FSN) Guidelines is the result of a collaborative effort from many individuals, whose inputs are gratefully acknowledged. Special mention is made to the Secretariat DRR Unit, the World Bank, and South African Development Community Member States (SADC):

- Angola
- Botswana
- Comoros
- Democratic Republic of Congo
- Eswatini
- Lesotho
- Madagascar
- Malawi
- Mauritius
- Mozambique
- Namibia
- Seychelles
- South Africa
- Tanzania
- Zambia
- Zimbabwe

TABLE OF CONTENTS

DOCUMENT INDEX	2
SECTOR MAINSTREAMING DOCUMENTS	2
ACKNOWLEDGEMENTS	3
TABLE OF CONTENTS	4
LIST OF TABLES	5
LIST OF FIGURES	5
DISCLAIMER	6
ACRONYMS	7
GLOSSARY OF TERMS	8
1 INTRODUCTION	10
1.1 MAINSTREAMING OF DISASTER RISK REDUCTION	10
2 OBJECTIVES OF THE GUIDELINE	10
3 HISTORICAL RISKS AND IMPACTS OF DISASTERS ON AGRICULTURE, FOOD SECURITY, AND NUTRITION IN SOUTHERN AFRICA	11
3.1 IMPACTS OF DISASTERS ON THE AGRICULTURE, FOOD SECURITY, AND NUTRITION SECTOR	11
3.1.1 IMPACTS OF DROUGHTS	12
3.2 IMPACT OF FLOODS	15
3.3 IMPACT OF STORMS/CYCLONES	16
3.4 FOOD SECURITY AND NUTRITION CONTEXT	16
4 GUIDING FRAMEWORKS FOR MAINSTREAMING DRR IN AGRICULTURE FOOD SECURITY, AND NUTRITION SECTOR	18
4.1 THE SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION 2015 – 2030	18
4.2 SUSTAINABLE DEVELOPMENT GOALS	18
4.3 SADC REGIONAL RESILIENCE FRAMEWORK 2020-2030	19
4.4 THE REGIONAL AGRICULTURAL POLICY	19
4.5 INVESTMENT, AND IMPLEMENTATION MANAGEMENT PLAN (2017 – 2022) FOR THE REGIONAL AGRICULTURAL POLICY	20
4.6 FOOD AND NUTRITION SECURITY STRATEGY 2015 – 2025	20
4.7 REGIONAL GUIDELINES FOR THE REGULATION OF FOOD SAFETY IN SADC MEMBER STATES 2011	21
4.8 OTHER RELEVANT REGIONAL INSTRUMENTS	21
5 GAP ANALYSIS	22
5.1 POOR ENVIRONMENT FOR MAINSTREAMING DRR	22
5.2 EFFECTIVE COORDINATION	22
5.3 LACK OF AWARENESS	23
5.4 WEAK CAPACITY AND KNOWLEDGE	23
5.5 INADEQUATE MONITORING OF THE IMPLEMENTATION OF DRR MEASURES	23
6 GUIDELINES AND INTERVENTIONS	23
7 MONITORING AND EVALUATION	26
8 CONCLUSION	27
9 REFERENCES	28
ANNEXURES	37

<u>ANNEX 1:MAINSTREAMING DRR IN AGRICULTURE FOOD SECURITY AND NUTRITION MEASURES</u>	37
---	-----------

LIST OF TABLES

<u>TABLE 1: IMPACT OF DROUGHT IN SOUTHERN AFRICA</u>	14
<u>TABLE 2: IMPACT OF FLOODS IN SOUTHERN AFRICA (ADAPTED FROM DROUGHT IMPACT MITIGATION, AND PREVENTION IN THE LIMPOPO RIVER BASIN: A SITUATION ANALYSIS, 2004)</u>	15

LIST OF FIGURES

<u>FIGURE 1: IMPACTS OF NATURAL DISASTERS ON AGRICULTURE AS A SHARE OF THE TOTAL DAMAGES ON ALL SECTORS DUE TO DROUGHT SOURCE: FAO, 2018</u>	12
<u>FIGURE 2: PREVALENCE OF STUNTING IN SADC: SOURCE: MEMBER STATES, JME 2020</u>	17
<u>FIGURE 3: PROCESS FOR MAINSTREAMING DRR</u>	24

DISCLAIMER

The opinions expressed in this document have been based on the information supplied to SRK Consulting (South Africa) (Pty) Ltd (SRK) by the Southern African Development Community (SADC). The opinions in this document are provided in response to a specific request from SADC to do so. SRK has exercised all due care in reviewing the supplied information. Whilst SRK has compared key supplied data with expected values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. SRK does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this document apply to the site conditions and features as they existed at the time of SRK's investigations, and those foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this document, about which SRK had no prior knowledge nor had the opportunity to evaluate.

ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
AU	African Union
COVID-19	Novel coronavirus
CCA	Climate Change Adaptation
CSA	Climate Smart Agriculture
CSC	Climate Service Centre
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
FANR	Food Agriculture and Natural Resources
FAO	Food and Agriculture Organization of the United Nations
FSN	Food Security and Nutrition
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
I&S	Infrastructure and Services Directorate
MAD	Minimum Acceptable Diet
M&E	Monitoring and Evaluation
MUAC	Mass mid-Upper Arm Circumference
MS	Member States
RAIP	Regional Agricultural Investment Plan
RAP	Regional Agricultural Policy
RVAA	Regional Vulnerability Assessment and Analysis
SADC	Southern African Development Community
SDG	Sustainable Development Goals
SHD	Social and Human Development Directorate
UNCED	United Nations Conference on Environment and Development
VAS	Vitamin A Supplementation
WHA	World Health Assembly

GLOSSARY OF TERMS

Adaptation means the adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits beneficial opportunities (UNDRR, 2017);

Capacity means the combination of all the strengths, attributes and resources available within an organisation, community or society to manage and reduce disaster risks and strengthen resilience (UNDRR, 2017);

Climate change means a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or land use" (IPCC, 2015);

Disaster risk reduction means the policy objective aimed at preventing new, reducing existing disaster risk, and managing residual risk, all of which contribute to strengthening resilience. Concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events (UNDRR, 2017).

Disaster risk assessment means a qualitative or quantitative approach to determine the nature and extent of disaster risk by analysing potential hazards and evaluating existing conditions of exposure and vulnerability that together could harm people, property, services, livelihoods and the environment on which they depend (United Nations, 2016);

Early warning means the identification, interpretation and recognition of events that indicate a potential emergency (UNDRR, 2017);

Ecosystem means a functional unit consisting of living organisms, their non-living environment, and the interactions within and between them (IPCC, 2015);

Exposure means people, property, systems, or other elements present in hazard zones that are thereby subject to potential losses (United Nations, 2016);

Food security refers to the ability of individuals to obtain enough food on a day-to-day basis. Internationally food security is defined as the ability of people to secure adequate food. More especially, it has always been defined by researchers as access by all people to enough food for active, healthy life (IPCC, 2015);

Hazard means a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation (UNDRR, 2017);

Humanitarian means the aid and action designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of man-made crises and

natural disasters, as well as to prevent and strengthen preparedness for the occurrence of such situations (SADC, 2017);

Land use means the arrangements, activities, and inputs undertaken in a particular land cover type (a set of human actions). The term land use is also used in the sense of the social, and economic purposes for which land is managed (e. g., grazing, timber extraction, and conservation) (IPCC, 2015);

Mitigation means the lessening or minimising of the adverse impacts of a hazardous event (United Nations, 2016);

Preparedness means the knowledge and capacities developed by governments, professional response and recovery organisations, communities and individuals to effectively anticipate, respond to and recover from, the impacts of likely, imminent or current disasters (hazard events or conditions) (SADC, 2017);

Prevention means the undertaking of activities and measures to avoid existing and new disaster risks (United Nations, 2016);

Recovery means decisions and actions aimed at improving livelihoods, health, as well as economic, physical, social, cultural and environmental assets, systems and activities, (the restoration, and improvement where appropriate, of facilities, livelihoods and living conditions) of disaster-affected community or society, aligning with the principles of sustainable development, including build back better to avoid or reduce future disaster risk (UNDRR, 2017);

Rehabilitation means operations and decisions taken after a disaster with a view to restoring an affected community to its former living conditions, while encouraging and facilitating the necessary adjustments to changes caused by the disaster (UNDRR, 2017);

Resilience means the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management (UNDRR, 2017);

Response means actions taken during or immediately after a disaster and /or the provision of emergency services and public assistance during or immediately after a disaster to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected (UNDRR, 2017);

Vulnerability means the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards (United Nations, 2016).

1 INTRODUCTION

The Africa Report on Disaster Risk Reduction (DRR) 2015-2018, published by the African Union (AU), identified that droughts, floods, storms, and epidemics cause the most loss of lives, livelihoods, critical infrastructure, and have the most significant impact on countries' economies. The Southern African Development Community (SADC) Regional Resilience Framework 2020-2030 also shows that the primary climate hazards experienced in the region are drought, floods, and tropical cyclones. These hazards together with epidemics have direct or indirect impacts on the agriculture sector with consequences for Food Security and Nutrition.

Agriculture is central to the economic growth and development of the SADC region as it accounts for 70 per cent of the regional Gross Domestic Product (GDP) through production, food systems processing and trade flows. Such is important for meeting the basic need for food security and nutrition. It is therefore essential, to curb the impact of these hazards on the agriculture sector to ensure availability, access and effective utilization of food through DRR. Mainstreaming DRR in the agriculture sector will involve ensuring that risk reduction becomes an essential feature of SADC strategies, policies, protocols and programmes for the sector.

This DRR Mainstreaming in Agriculture Food Security and Nutrition will focus on mitigating the possible impacts of the various hazards by proposing the management aspects of these disasters in agriculture, food security, and nutrition protocols, policies, strategies and programmes. It will also outline intervention and measures for mainstreaming purposes to promote DRR mainstreaming at both regional and Member State levels

1.1 Mainstreaming of Disaster Risk Reduction

DRR mainstreaming is a process of the institutionalisation of risk reduction, supported by organisational structures, and cultures that are incorporated within development interventions. As adopted from the UNISDR Global Assessment Report (2015), DRR aims to expect, prevent, and reduce new and existing disaster risk and manage residual risk. Preventing and reducing disaster risk contribute to strengthening resilience, which facilitates sustainable development. Disaster Risk Management (DRM) requires the setting of focussed goals and attainment of objectives through the implementation of strategies and plans. These plans need to address prevention, mitigation, risk transfer, preparedness and recovery actions.

"Mainstreaming DRR into the development planning process essentially means looking critically at each programme, activity, and project that is being planned. The purpose of the analysis is not only to reduce the existing risks of disasters but also to minimise the potential contribution to the creation of new risks and disasters."

2 OBJECTIVES OF THE GUIDELINE

The objective of the guideline is to promote the integration of DRR interventions in

agriculture, Food Security and Nutrition (FSN) to manage the disasters that affect the sector but also to reduce the contribution of the sector to disaster risks.

Specifically, the guidelines will:

- (i) Ensure that DRR is an integral part of the agriculture, food security and nutrition policies, strategies, plans, interventions and institutional arrangements; and
- (ii) Strengthen disaster preparedness and response for agriculture, food security and nutrition programming and monitoring.

To achieve this, the guideline looks to:

- Encourage collaborative, coordinated and coherent action among countries and prioritize actions in the regional and sub-regional added value to strengthen the mainstreaming of DRM and Climate Change Adaptation (CCA) in the agriculture sector; and
- Generate a coordinating framework for collaboration between sectors involved in building the agriculture, FSN sector's resilience.

3 HISTORICAL RISKS AND IMPACTS OF DISASTERS ON AGRICULTURE, FOOD SECURITY, AND NUTRITION IN SOUTHERN AFRICA

The Agriculture, FSN sector face several disasters that have implications for sustainable development. This calls for concerted efforts at all levels from SADC Secretariat to the Member States to ensure sustained food production systems, access and utilisation development given the identified various disaster risks in the region that include floods, droughts, epidemics, disease outbreaks.

3.1 Impacts of Disasters on the Agriculture, Food Security, and Nutrition Sector

Historical assessments of the impacts of natural hazards and disasters on agriculture, food security, and nutrition show that between 1980 and 2014, over 363 million people in sub-Saharan Africa, which included 86 million from Southern Africa were affected by droughts. Southern Africa has been chosen as a climate “hotspot” by the Intergovernmental Panel on Climate Change (IPCC). The region is prone to recurrent extreme climatic shocks and has experienced normal rainfall in only one of the last five cropping seasons since 2016/17. The most pronounced manifestations of climate change and variability in the region include:

- (i) **An increase in temperature, leading to heat stress and reduced crop yields.** The region's staple crop maize is particularly prone to the effects of climate change;
- (ii) **Changes in rainfall patterns** increasingly erratic rainfall events of high intensity, leading to floods and more frequent droughts and dry spells resulting in low agricultural production, unstable food prices and malnutrition;

- (iii) **Delayed onset of the rainfall season** and an early tailing off, thus reducing the growing period for crops and yields;
- (iv) **Human health**, which is already compromised by a range of factors such as elevated levels of disease load namely Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS), disease outbreaks such as malaria and cholera which are compounded further by the impacts of climate change and climate variability; and
- (v) **Crop disease and pests** can drastically decrease or destroy harvest and vegetation critical for a healthy ecosystem that is of environmental service to many vulnerable communities.

Climate-induced shocks and hazards are linked to reduced agricultural production, displacement of people, damage to homes and critical infrastructure, and disease outbreaks such as malaria and cholera. Repeated extreme climatic shocks also resulted in the highest acute food insecurity experienced in the past decade and malnutrition. According to the Food and Agriculture Organization of the United Nations (FAO), 80 per cent of the damage and losses caused by drought are to agriculture, especially livestock and crop production, as shown in Figure 1.

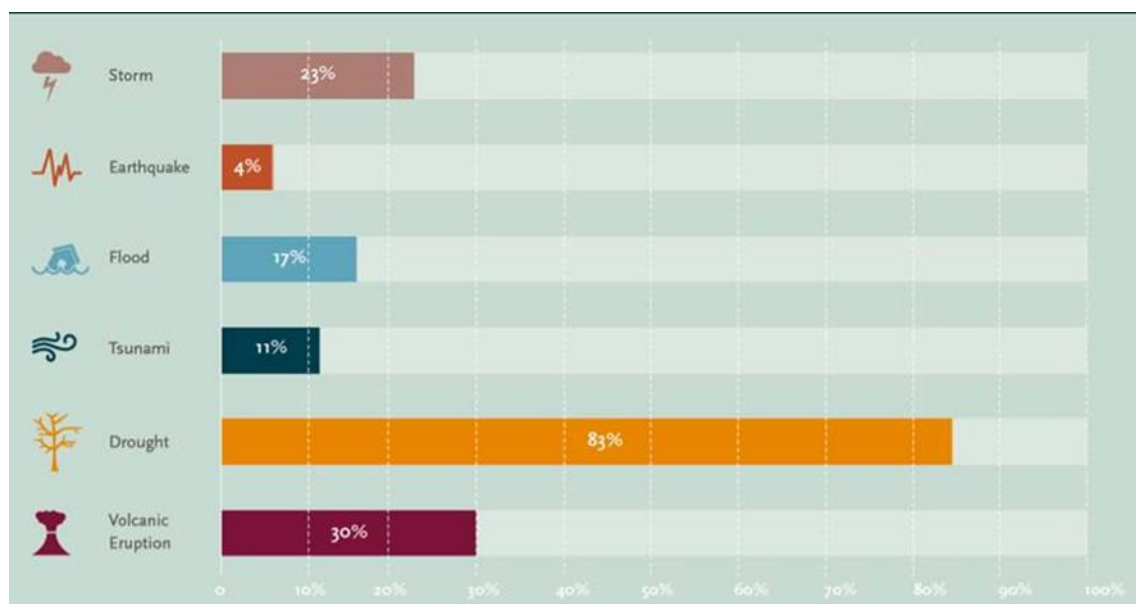


Figure 1: Impacts of natural disasters on agriculture as a share of the total damages on all sectors due to drought Source: FAO, 2018

3.1.1 Impacts of Droughts

The dependence of most of southern Africa's economies on rain-fed agriculture emphasises the need to undertake DRR as part of the agriculture interventions to ensure the resilience of the sector. Since the 2015-2016 El Niño induced drought that resulted in life-threatening extreme weather in many countries around the world, southern Africa has continued to experience a chronic drought situation over several decades. Diminished and late rainfall, combined with long-term increases in temperatures, have jeopardized the food security of millions of people in the region.

Droughts have primary and secondary impacts that have direct or indirect implications for

the agriculture sector. Table 1 provides a summary of some of the primary and secondary effects of drought on social, environmental and economic levels.

Table 1: Impact of drought in Southern Africa

	Primary impacts	Secondary impacts
Social		
1	Disrupted water resources	Migration, resettlement, conflicts between water users
2	Increased quest for water	Increased conflicts between water users
3	Marginal lands become unsustainable	Poverty, unemployment
4	Reduced grazing quality, and crop yields	Overstocking and therefore reduced quality of livestock
6.	Increased food insecurity	Malnutrition, and famine; civil strife, and conflict
7.	Increased urbanisation	Social pressure, reduced safety
Environmental		
8.	Increased damage to natural habitats	Loss of biodiversity
9.	Reduced forest, crop, and rangeland productivity	Reduced income and food shortages
10.	Increased daytime temperature	Increased fire hazard
11.	Increased evapotranspiration	Crop withering, and dying
12.	Decreased soil productivity	Desertification, and soil degradation (topsoil erosion)
13.	Decreased water resources	Lack of water for feeding and drinking
14.	Reduced water quality	More waterborne diseases, lower accessibility to water
Economic		
15.	Reduced business with retailers	Increased prices for food and arming commodities
16.	Food and energy shortages	Drastic price increases; expensive imports/substitutes
17.	Loss of crops for food and income	The increased expense of buying food, loss of income
18.	Reduction of livestock quality	Sale of livestock at reduced market price
19.	Water scarcity	Increased transport costs
20.	Loss of jobs, income, and property	Deepening poverty; increased unemployment Increased debt; increased credit risk for financial institutions
22.	Less income from tourism and recreation	Increased capital shortfall

3.2 Impact of Floods

According to the Coordination of Humanitarian Affairs Humanitarian Implications of Climate Change Report, Africa, particularly Sub-Saharan Africa has the highest concentration of flood risk hotspots. Human settlements situated in the floodplains are particularly threatened by the risk of flooding (van Niekerk & Nemaikonde, 2017) that often leads to deaths, injuries and infectious diseases such as Malaria. Table 2 shows the social, environmental, and economical primary and secondary impacts of flooding in the agriculture sector.

Table 2: Impact of floods in southern Africa (adapted from Drought impact mitigation, and prevention in the Limpopo River Basin: A situation analysis, 2004)

	Primary impacts	Secondary impacts
	Social	
1.	Disruption of water resources	Migration, resettlement, conflicts between water users
2.	Employment lay-offs	Reduced or no income
3.	Increased food insecurity	Malnutrition, and famine; civil strife, and conflict
4.	Increased pollutant concentrations	Public health risks
5.	Increased urbanisation	Social pressure, reduced safety
	Environmental	
6.	Increased damage to natural habitats	Loss of biodiversity
7.	Reduced forest, crop, and rangeland productivity	Reduced income and food shortages
8.	Decreased water resources	Lack of water for feeding and drinking
9.	Reduced water quality	More waterborne diseases
	Economic	
10.	Reduced business with retailers	Increased prices for farming commodities
11.	Food and energy shortages	Drastic price increases; expensive imports/substitutes
12.	Loss of crops for food and income	The increased expense of buying food, loss of income
13.	Reduction of livestock quality	Sale of livestock at reduced market price
14.	Water scarcity	Increased transport costs
15.	Loss of jobs, income, and property	Deepening poverty; increased unemployment
16.	Less income from tourism and recreation	Increased capital shortfall
17.	Forced financial loans	Increased debt; increased credit risk for financial institutions

3.3 Impact of Storms/Cyclones

According to the World Bank (2016), 12 tropical cyclones form in the Southwest Indian Ocean Basin every year, of which about 25% make landfall between November and May. The various combinations of fierce winds and heavy rainfall (storm surges) make cyclones one of the most violent and destructive of all meteorological hazards.

Storms have caused substantial damage to social, and economic infrastructure, and significant displacement of households, and loss of life (UNISDR, 2014). As a result of the cyclone activity during the peak period of November to May, storms can account for about 35% of damages, and losses in the region. Like the impacts of drought, storms/cyclones cause impacts on the Region Agriculture, Food Security, and Nutrition as shown in Table 2.

3.4 Food Security and Nutrition Context

According to the 2020 Synthesis Report on the State of Food and Nutrition Security and Vulnerability in Southern Africa, as compiled by the SADC Regional Vulnerability Assessment and Analysis (RVAA) Programme, based on information from 13 Member States, the numbers of food-insecure people has increased to 44.8 Million from 41.2 Million during the same period in 2019. As of October 2020, following further assessments as informed by the Updated 2020 Synthesis Report on the State of Food and Nutrition Security and Vulnerability in Southern Africa, the number of food insecure population rose to 51.3 Million due to the impact of the Corona Virus Disease (COVID-19) pandemic. The pandemic has also resulted in economy lockdowns for the government limiting access to food. Such has been compounded by the loss of income as employment levels dropped drastically due to the loss of jobs.

In addition to the high food insecurity, the region is faced with a triple burden of malnutrition characterized by undernutrition (stunting and acute malnutrition), over-nutrition (overweight/obesity), and micronutrient deficiencies. The SADC region has more than 18.7 million stunted children (children who are too short for their age). The stunting prevalence is above 30% - classified as extremely high - in 9 of the 16 SADC Member States. However, a reduction in stunting is occurring too slowly to meet the World Health Assembly (WHA) 2025 or the Sustainable Development Goals (SDG) targets (see Figure 2).

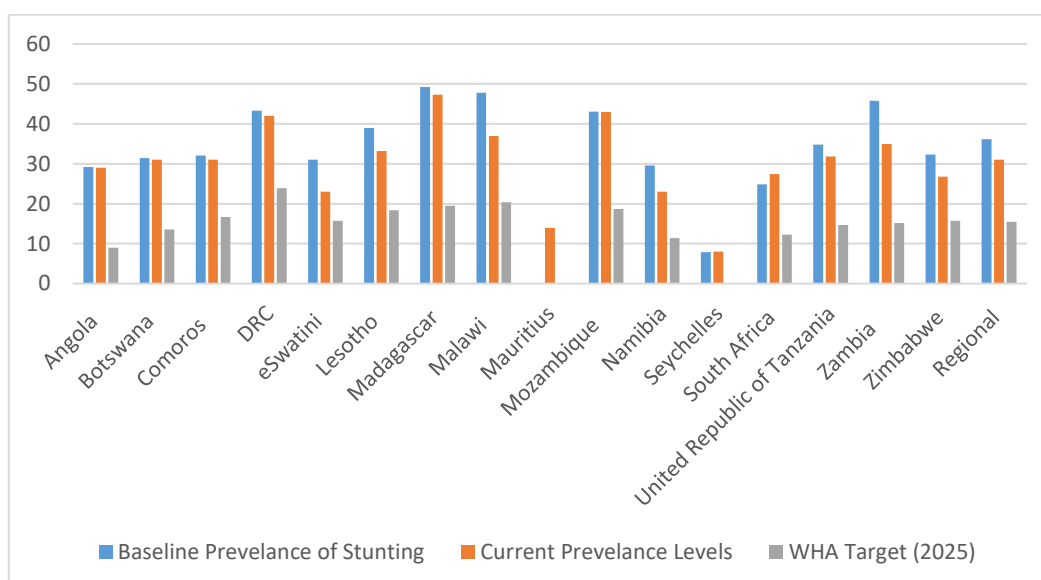


Figure 2: Prevalence of Stunting in SADC: Source: Member States, JME 2020

Cereal-based diets are predominant across the region, limiting diet diversity and increasing the risk of micronutrient deficiencies. This is currently demonstrated by the active pellagra outbreaks in Mozambique and Zimbabwe. The malnutrition risk is further increased by climate change, manifested in the region as droughts and floods, and the impact borne disproportionately by the most vulnerable.

The COVID-19 pandemic of 2020 has further increased the risk of malnutrition due to the containment measures taken by the various Member States to curb the spread of the virus, resulting in reduced access to food. As restrictions were put in place during the year by the Member States, diverse varieties of food have become unavailable, inaccessible and unaffordable to the most vulnerable households. With COVID-19 cases persisting in 2021 and more restrict action measures adopted, there is a risk that households will be forced to adopt negative eating practices, including reducing the frequency, quantity and quality of foods, to adapt to the lockdown measures. Available current data shows that the prevalence of global acute malnutrition (wasting - being too thin for your height) among children under age 5 is above 5% and pockets of high wasting rates (above 10%) in the region.

Overweight or obesity is also a growing challenge in the region, both among adults and young children. The prevalence of overweight amongst children under age 5 is high, at more than 10% in four Member States. Appropriate feeding of infants and young children is multi-dimensional and influenced by factors such as food quality, mothers' time, mothers' level of education, and cultural norms. Minimum Acceptable Diet (MAD) scores - a measure of the quality of young children's diets - is exceptionally low, with most Member States having MAD of less than 15%.

The region has also experienced other impacts, including the outbreak of the COVID-19 pandemic that has had negative impacts on the region's Agriculture, Food Security, and Nutrition. Response measures to contain the virus led to lockdowns and closures of borders that hindered the free movement of goods including food, and agriculture inputs with serious negative implications for the sector. Also, the region experienced the impacts of migratory

pests and disease including the Red and Desert Locusts and other crop pests and diseases that destroyed planted crops and harvest in more than eight countries in the region. On the other hand, recurring livestock, wildlife and aquatic stock continue to be impacted by drought and epidemics.

4 GUIDING FRAMEWORKS FOR MAINSTREAMING DRR IN AGRICULTURE FOOD SECURITY, AND NUTRITION SECTOR

Several policies and strategies govern the mainstreaming of DRR in the SADC Agriculture, FSN. These policies and strategies also guide the sector in ensuring sustainable production that includes elements of DRR. These include the Sendai Framework, Agenda 2030, regional resilience framework and agriculture policies:

4.1 The Sendai Framework for Disaster Risk Reduction 2015 – 2030

The Sendai Framework focuses on four (4) priorities for action, which include understanding risk; strengthening disaster risk governance to manage disaster risk; investing in disaster risk reduction for resilience; and enhancing disaster preparedness for effective response, and "Build Back Better" in recovery, rehabilitation, and reconstruction. They will guide priorities in mainstreaming disaster risk in the sector.

4.2 Sustainable Development Goals

The SDGs has specific goals relating to DRR which include an end to poverty; ending hunger; ensuring healthy lives; ensuring availability and sustainable management of water and sanitation and reducing inequality within and among countries.

Specific to Agriculture and FSN are:

- By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters:
 - The number of deaths, missing persons and persons affected by disaster per 100,000 people;
 - Direct disaster economic losses concerning global;
 - The number of national and local DRR strategies.
- By 2030, end all forms of malnutrition, which includes achieving the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons by 2025;
- By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, which help maintain ecosystems, which strengthen capacity for adaptation to climate change, extreme

weather, drought, flooding and other disasters and that progressively improve land and soil:

- The proportion of agricultural area under productive and sustainable agriculture.
- Maintain the genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed:
 - The proportion of local breeds classified as being at risk, not-at-risk or at the unknown level of risk of extinction.

4.3 SADC Regional Resilience Framework 2020-2030

The Resilience Framework aims to provide a broad strategic direction for SADC and partner organisations to align their strategies and to understand the complexity of resilience in the Region (SADC, 2020). “Resilience” is described in the report as “the capacity of the system to experience a disturbance or change and still retain its basic function, structure, and identity; the ability to self-organise; and the ability to increase its capacity to learn and adapt”. The Framework lists food and nutrition security as one of the priority areas in the region which can be achieved through the following objectives:

- (i) Development of robust multi-hazard early warning systems for all weather-related hazards;
- (ii) Maintaining up-to-date analyses and risk surveillance for food security and vulnerabilities;
- (iii) Enhancing technology / innovation-driven diversified livelihoods;
- (iv) Food chains and systems as “sunrise industries”, with specific attention to communities at risk, including women, youth and other vulnerable groups; and
- (v) Development and management of strategic grain reserves; and, increase market access and establish regional special agricultural export zones.

4.4 The Regional Agricultural Policy

The SADC Regional Agricultural Policy (RAP) is an instrument that defines common agreed objectives and strategies / measures to be adopted by the SADC Member States to improve agriculture production and productivity in the region. The policy includes implementation mechanisms to guide, promote and support actions at regional and national levels in the agricultural sector of the SADC Member States.

The goal of the policy is to contribute towards the accomplishment of the SADC Common Agenda, which promotes sustainable, equitable economic growth and socio-economic development. DRR features in the policies objectives include:

- (i) Enhance sustainable agricultural production, productivity and competitiveness (Disaster risk reduction for resilience);
- (ii) Improve regional, international trade and access to markets of agricultural products (Disaster risk governance, Disaster risk reduction for resilience);
- (iii) Improve private, public sector engagement and investment in the agricultural value-chains (Disaster risk reduction for resilience).
- (iv) Reduce the social and economic vulnerability of the region's population in the context of food and nutrition security and the changing economic and climatic environment (Disaster risk reduction for resilience).

However, more will need to be done to translate these policies objectives into actions within the agriculture sector on the ground and building resilience.

4.5 Investment, and Implementation Management Plan (2017 – 2022) for the Regional Agricultural Policy

The Regional Agricultural Investment Plan (RAIP) identified priority programmes and sub-programs, from the RAP, wherein investment in the agriculture sector needs to be directed. The RAIP has been developed and will be operationalised through an instrument-based implementation mechanism. The mechanism provides 'Facilities', under which are 'windows' supported by 'measures' for implementation.

Disaster risk reduction can play a role in the following programmes:

- (i) Programme 1: Increase Agricultural Production, Productivity, and Competitiveness (governance and resilience building);
- (ii) Programme 2: Increase access to markets, and trade of agriculture products (governance and resilience building);
- (iii) Programme 4: Reduce social, and economic vulnerability in the Region (resilience building); and
- (iv) Programme 5: Improve food and nutrition security for the Region (resilience building).

4.6 Food and Nutrition Security Strategy 2015 – 2025

The vision of the strategy is the attainment of universal physical, social and economic access to safe, healthy and nutritious food to ensure the financial well-being of all the people of Southern Africa to significantly reduce food and nutrition insecurity in the region by 2025.

DRR can play a critical role in resilience building in amongst others the following interventions:

- (i) Promotion of the availability of food through improved production, productivity, and competitiveness;

- (ii) Improved access to adequate, and appropriate food in terms of quality and quantity;
- (iii) Improve the utilisation of nutritious, healthy, diverse, and safe food for consumption under an adequate biological, and social environment with proper health care; and
- (iv) Ensure stable, and sustainable availability, access and utilisation of food.

4.7 Regional Guidelines for the Regulation of Food Safety in SADC Member States 2011

The guidelines provide for the regulation of food safety for SADC, including regulatory frameworks on food safety at SADC regional and national level. The integration of DRR can:

- (i) Assure an elevated level of protection of human life and health in the pursuit of regional policies;
- (ii) Assure the free movement of safe and wholesome food as an essential aspect of the regional market, and to contribute significantly to their social, and economic interest;
- (iii) Ensure that national food safety management requirements do not differ significantly from Member State to Member State to the extent of impeding free movement of food within the region; and
- (iv) Ensure that all the institutions in the Member States, having mandates related to food safety management work together and collaborate with the private sector, academia, research organisations and any other relevant stakeholders. The collaboration will ensure coordination and long-term sustainability of the safety, quality, and profitability of the food produced in the region.

4.8 Other Relevant Regional Instruments

DRR can also be incorporated in other agriculture, food security, and nutrition-related policies and protocols including:

(i) SADC Protocol on Trade

Article 8 States that necessary to protect human, animal or plant life or health to avoid or relieve a critical shortage of food in any exporting Member State, promote conservation of exhaustible natural resources and the environment for resilience building.

(ii) SADC Protocol on Forestry

The SADC Protocol on Forestry is aimed at promoting sustainable forest management and trade in forest products, consistent with the Forest Principles adopted at the United Nations Conference on Environment and Development (UNCED) and the Proposals for Action of the Intergovernmental Forum on Forests. Article 4(3) of the Protocol on Forestry calls upon

State Parties to protect, conserve and ensure that their forest resources are used in a way and at a rate that does not lead to long term degradation of the forests, thereby maintaining the potential of forests to meet the needs of the present and future generations. This article in a way also addresses the issue of maintenance of forests for climate change mitigation.

(iii)SADC Protocols on Fisheries

Article 7(6) of the Protocol on Fisheries calls upon State Parties that develop, implement and enforce management plans towards the development of shared inland water bodies by balancing the needs of industrial enterprises, artisanal fishers, subsistence fishers, recreational fishers and aquaculture practitioners in a politically, environmentally and economically sustainable manner.

5 GAP ANALYSIS

Mainstreaming DRR for the SADC region is principled on the provisions of the Sendai Framework and SDGs and the Regional Resilience Framework. As such this gap analysis aims to identify inadequacies in the integration of DRR in the Agriculture, Food Security, and Nutrition Sector.

Several challenges that impede the effective mainstreaming of DRR, among others, include a poor enabling environment for mainstreaming DRR, lack of effective coordination, weak ability and knowledge, lack of awareness, and inadequate and ineffective monitoring of the implementation of DRR measures. These barriers will form a basis for the interventions for the mainstreaming of DRR guidelines in the sectors.

5.1 Poor Environment for Mainstreaming DRR

Mainstreaming DRR requires that a conducive environment be provided to ensure that policies, strategic and programme interventions towards mainstreaming DRR are implemented. While the Agriculture, Food Security, and Nutrition sectors have an enabling and conducive environment for mainstreaming DRR, the focus is on the regional integration mandates and not on the broader implementation of related DRR measures.

5.2 Effective Coordination

Although there are some coordination and communication between sectors, the silo effect as mentioned above and the lack of DRR awareness and therefore sectoral performance measures contribute to less-than-ideal coordination between sectors. The less-than-ideal coordination impacts negatively and impedes mainstreaming DRR in the Agriculture, Food Security, and Nutrition sector. The RVAA Programme provides critical data and information for food security assessment and vulnerability borne from food and nutrition insecurity as risk reduction measures. Information from the Climate Service Centre (CSC) in the Infrastructure and Services Directorate (I&S) as well as the Social and Human Development Directorate (SHD) responsible for nutrition, are not coordinated to effectively utilise the information and address risk-based food and nutrition security. The lack of coordination also contributes to the inadequate and ineffective monitoring of the implementation of DRR

measures in the sector.

5.3 Lack of Awareness

Awareness building includes measures to achieve a behavioural change as well as awareness building and is often the start of capacity building. Awareness building activities take place at a community, household, school and administration level. For disaster risk information to be useful in the implementation of successful risk reduction, people need to be aware of the information and how to use it. Proper awareness of risk is not merely knowing of the existence of the risk; people and communities must be able to take effective action to reduce the risk.

Awareness of risk creates conditions for the combination of common interests to promote DRR at all levels because the knowledge of risk contributes to inducing people to act to reduce the potential risk. In this respect, risk awareness is central to generating risk reduction behaviour. Limited awareness of DRR and the impact thereof on sustainable development and the socio-economic well-being of communities in SADC exists in the sectors. DRR is not the primary mandate and focus of the Agriculture, Food Security, and Nutrition sector. This limited awareness impedes the mainstreaming of DRR in the sector.

5.4 Weak Capacity and Knowledge

Risk responsive policy development and planning at regional and national levels do not undertake a synergistic approach. Such would use the planning and implementation of DRR through institutional co-operation between various stakeholder interests and demands, amongst others as well as coordination of activities. These activities enable stakeholders to develop a shared vision of the requisite institutional framework and sustain concerted action for reducing disaster risks. The lack of capacity regarding DRR in the sectors is hampering the process and creates challenges for mainstreaming DRR. Lack of capacity also includes a lack of mechanisms to monitor the implementation of DRR measures which is one of the main challenges in the Agriculture, Food Security, and Nutrition sector.

5.5 Inadequate Monitoring of the Implementation of DRR Measures

Monitoring the implementation of DRR is necessary to ensure that the measures are effective. Although some sectors include DRR measures in their development projects, it is not clear if the sectors implement these measures. A contributing factor to the uncertainty is that no mechanisms or systems exist to monitor whether DRR measures are being implemented. The Agriculture, Food Security, and Nutrition sector mainstreamed DRR through their development plans, policies and protocols. However, the main challenge is the inadequate and ineffective monitoring of the implementation of these DRR measures. The result is that the sector cannot take remedial actions to ensure mainstreaming of DRR in the Agriculture, Food Security, and Nutrition sector.

6 GUIDELINES AND INTERVENTIONS

Mainstreaming DRR in the Agriculture, Food Security, and Nutrition sector will serve two

purposes: firstly, to ensure that agriculture development is protected from existing and future disaster risk through DRR elements, and secondly to ensure that agriculture expansion and development does not increase existing and future levels of disaster risks.

Figure 3 shows a summary of the methodology to be followed in the mainstreaming process which forms the framework of the general guideline. The methodology describes the steps undertaken in the mainstreaming process. To be effective, the process requires a commitment by the sector organization to mainstream DRR. Among others, there is also the need to ensure adequate capacity and advocacy for mainstreaming of DRR from policy development to planning and implementation on the ground.

The process starts with screening/interrogating policy documents to identify gaps in the mainstreaming of DRR that SADC requires to address in both existing and future policies. This will provide the status regarding how DRR information and interventions including hazards, risks, and disaster reduction measures have been included in agriculture. The focus should be to identify how sector-related hazards, risks and risk reduction measures are considered in the sector, as well as the identification of risk reduction measures that have to be undertaken by the agriculture sector to mainstream DRR.

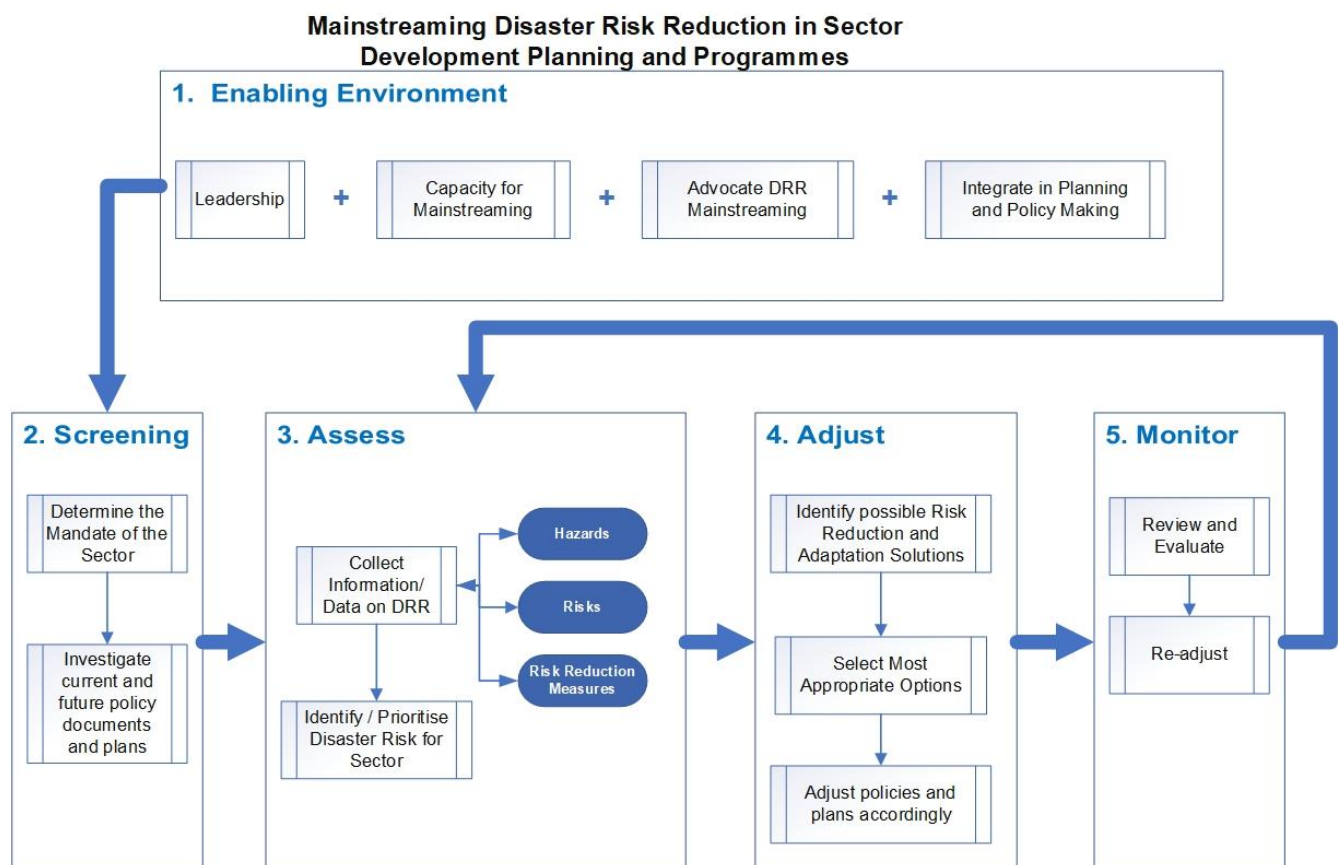


Figure 3: Process for mainstreaming DRR

Mainstreaming of DRR in the agriculture, food security and nutrition sector will be guided by the priority areas of the Sendai Framework guideline to mainstream DRR. The framework provides a practical guide to mainstreaming DRR and CCA for effective mainstreaming of DRR. The proposed guidelines are summarized below:

Priority 1: Understanding disaster risks in the Agriculture, Food Security and Nutrition Sector

- (i) Identify and document all risks and hazards that impact the Agriculture, Food Security and Nutrition Sector;
- (ii) Promote risk data and information management, including early warning to enhance the understanding of risks for the agriculture sector, for informed decision-making, both at the producer, government and other stakeholder levels associated with agriculture, food security and nutrition. Effect the use of data and information from the RVAA Programme and other regional sources or information;
- (iii) Promote regional and sub-regional platforms and networks to link the academic, scientific and technological community with policymakers and other relevant agriculture sector stakeholders to promote knowledge sharing on disaster risk, good practices and technologies among countries and institutions for resilience building and enhance livelihoods; and
- (iv) Promote resilience-building agro-based indigenous knowledge and local practices for early warning, conservation including local agro-biodiversity technologies and Climate Smart Agriculture (CSA) that addresses specific needs and interests of vulnerable groups including women farmers during disasters including climate-related impacts.

Priority 2: Strengthen risk governance in the agriculture sector and FSN

- (i) Review sectoral policies and frameworks to ensure the adoption of the provisions of DRR through the disaster management cycle in the agriculture and FSN sector;
- (ii) Encourage collaboration between the agriculture, livestock, forestry, aquaculture and fisheries and strengthen technical and institutional capacities for planning, implementation, monitoring and evaluation to ensure the adoption of DRM and CCA provisions at all levels of the sector;
- (iii) enhance interagency collaboration to enhance synergies avoid duplications and foster the coherence of DRM actions between the agriculture, environment, and other relevant sectors to enhance the resilience of rural livelihoods and FSN;
- (iv) Set and promote minimum standards among regional, sub-regional and national institutions for addressing cross-border plant and animal health and food safety; and
- (i) Promote cross-border cooperation for policy and planning during the implementation of the shared ecosystem watersheds and marine-coastal resources, to increase resilience and reduce disaster risk in the agriculture sector.

Priority 3: Invest in disaster risk reduction for resilience in the agriculture sector and FSN

- (i) Promote harmonization and alignment between land use planning regulations, agriculture and food production standards that incorporate risk assessment;
- (ii) Strengthen public and private investments that promote environmentally friendly and sustainable resilient agricultural development that is climate and disaster risk-sensitive and competitive in the medium and long term;

- (iii) Promote sharing and harmonization of methodologies and practices for preparedness and response;
- (iv) Harmonize methods and tools for assessing damage and losses caused by disasters in the agricultural sector that takes into consideration the economic, social and environmental dimensions;
- (v) Strengthen the training of teaching of mothers and caretakers on acute and chronic malnutrition and encourage investments in nutrition enhancing programmes such as Immunisation, Vitamin A Supplementation (VAS) and Mass mid-Upper Arm Circumference (MUAC) screening in the Member States;
- (vi) Promote technical cooperation and sharing of best economic practices, including financial instruments for DRR focusing on among others the development of insurance schemes to reduce disaster risk and promote recovery; and
- (vii) Promote resource mobilization from funding mechanisms such as climate funds, and public-private partnerships and multi-country organisations for DRM and CCA of rural livelihoods.

Priority 4: Enhance better recovery, rehabilitation and reconstruction

- (i) Link regional, sub-regional and national level early warning systems with agriculture sector institutions responsible for coordinating disaster risk assistance at the national level, to ensure delivery of accurate and user-targeted information on agricultural and FSN hazards for timely decision-making by producers, governments and other relevant stakeholders;
- (ii) Facilitate the development of mechanisms, contingency plans and for an effective and timely response by the agriculture sector including for cross-border hazards;
- (iii) Promote regional collaboration for the timely delivery of disaster response, rehabilitation, recovery and reconstruction needs for the agriculture, food security and nutrition sector, which includes considerations for the development of food and financial reserves and other mechanisms for the restoration of ecosystems functionality; and
- (iv) Enhance capacities and sharing of good practices for livelihood rehabilitation, recovery and reconstruction that promotes “building back better” approaches.

7 MONITORING AND EVALUATION

Monitoring and Evaluation (M&E) of mainstreaming DRR is essential to track progress in the implementation of measures for mainstreaming DRR across the Agriculture, Food Security and Nutrition sector. Monitoring of the mainstreaming of DRR in the Agriculture, Food Security and Nutrition sector will be guided by the four priorities of the Sendai Framework and the mainstreaming measures outlines in the Africa Union Programme of Action.

In addition to the M&E Framework provided in Annex 1 for implementation by the Food Agriculture and Natural Resources (Agriculture and Food Security) (FANR) and Social Human Development (Nutrition) working closely with the DRR Unit, the following can be achieved:

- (i) Enhance capacities for monitoring and reporting on damage and losses in the Agriculture FSN Sector from disasters to inform policy and strategic long-term recovery; and
- (ii) Promote regional mechanisms for monitoring developments in the mainstreaming of DRM in the Agriculture and FNS.

8 CONCLUSION

DRR is vital for the SADC region to achieve sustainable development as well as to achieve the goals to decrease vulnerability of communities and enhance increased institutional and community resilience. The DRR must therefore be mainstreamed in the relevant key sectors such as agriculture and FSN. While DRR mainstreaming is already implemented in existing Agriculture, Food Security, and Nutrition policies such as the SADC RAP, Investment, and Implementation Management Plan for the Regional Agricultural Policy, Food, Nutrition Security Strategy, Protocol on Trade, Protocol on Forestry, Protocols on Fisheries, Protocol for Wildlife Conservation, and Law Enforcement, Protocol on Health their application of risk planning, the establishment of DRR integration measures and monitoring implementation remains critical.

The DRR Unit in collaboration with the FANR and SHD Directorates should promote the measures prescribed in these guidelines as well as other existing measures and monitor progress in the implementation of such measures in the Agricultural Sector. While some measures require to be implemented at the regional level, most of the measures must be implemented by the Member States through organizational commitment, relevant capacities and DRR mainstreaming measures in the sectors.

9 REFERENCES

- (GAR2019), G. A. (2018). *Building Disaster Resilience to Natural Hazards in Sub-Saharan African Regions, Countries and Communities*.
Adapted from UNISDR Global Assessment Report. (2015). *Disaster risk reduction & disaster*. PreventionWeb (<https://www.preventionweb.net/disaster-risk/concepts/drr-drm/>).
- African Development Bank, Commission of the African Union. (2004). *Guidelines for Mainstreaming Disaster Risk Assessment in Development*.
- African Union. (2010). *Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006 – 2015)*. Addis Ababa: African Union. Abgerufen am 23. June 2020 von https://www.unisdr.org/files/13655_POAinEnglishadoptedinNairobi16April%5B1%5D.pdf
- African Union. (2010). *PROGRAMME OF ACTION FOR THE IMPLEMENTATION OF THE AFRICA REGIONAL STRATEGY FOR DISASTER RISK REDUCTION (2006 – 2015)*. Addis Ababa: African Union. Abgerufen am 23. June 2020 von https://www.unisdr.org/files/13655_POAinEnglishadoptedinNairobi16April%5B1%5D.pdf
- African Union. (2019). *Africa Report on Disaster Risk Reduction 2015-2018*. .
- African Union. (2019). *Africa Report on Disaster Risk Reduction 2015-2018*. Unknown: African Union.
- Albris, K., Lauterbach, K., & Raju, E. (12. February 2020). Disaster Knowledge Gaps: Exploring the Interface Between Science and Policy for Disaster Risk Reduction in Europe. *International Journal of Disaster Risk Science*, 11, 1-12.
doi:<https://doi.org/10.1007/s13753-020-00250-5>
- Baxter, J., Helbrecht, K., Robinson, S., Sara, R., Reeder, A., & Kendro, H. (2013). *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*. Washington,DC: FEMA.
- Benson & Twigg. (2007). *Tools for mainstreaming disaster risk reduction: guidance notes for development organisations*. Switzerland: International Federation of Red Cross.
- Benson, C., & Twigg, J. (2007). *Tools for mainstreaming disaster risk reduction: guidance notes for development organisations*. Switzerland: International Federation of Red Cross.
- Benson, C; Twigg, J; & Rossetto, T. (2007). *Tools for mainstreaming disaster risk reduction: guidance notes for development organisations*. ProVention Consortium.
- Benson; Twigg & Rossetto. (2007). *Tools for mainstreaming disaster risk reduction: guidance notes for development organisations*. Switzerland: International Federation of Red Cross.

- Briggs, B. (28. December 2018). *theirworld*. Von Education under attack and battered by natural disasters in 2018: <https://theirworld.org/news/education-under-attack-in-2018-conflicts-natural-disasters> abgerufen
- CARE. (2009). *Humanitarian Implications of Climate Change. Mapping Emerging Trends and Risk Hotspots*.
- Ciampi, M. C., Gell, F., Lasap, L., & Turvi, E. (2011). *Gender and Disaster Risk Reduction - A Training Pack*. Oxford: OXFAM. Abgerufen am 8. May 2020 von <https://policy-practice.oxfam.org.uk/publications/gender-and-disaster-risk-reduction-a-training-pack-136105>
- Coburn, A. W., Spence, R. J., & Pomonis, A. (1994). *Disaster Mitigation*. Cambridge, United Kingdom: Cambridge Architectural Research Limited.
- Davis, I., & La Trobe, S. (2005). *Mainstreaming disaster risk reduction: a tool for development organisations*. Tearfund.
- Davis, I., & La Trobe, S. (2005). *Mainstreaming disaster risk reduction: a tool for development organisations*. Tearfund.
- Di Baldassarre, G., Kooy, M., Kemerink, J. S., & Brandimarte, L. (2013). Towards understanding the dynamic behaviour of floodplains as human-water systems. *Hydrology & Earth System Sciences Discussions* 10(3).
- Dilley, M., & Golnaraghi, M. (kein Datum). *Risk identification: a critical component of disaster risk management*. Global Risk Identification Programme (GRIP).
- (2007). *Disaster Risk Reduction in Tourism Destinations*. Nairobi: United Nations Environment Programme.
- ECOWAS. (2020). ECOWAS Disaster Risk Reduction Gender Strategy and Action Plan 2020-2030. In GFDDR, World Bank Group, & European Union (Hrsg.), *ECOWAS Disaster Risk Reduction Gender Strategy and Action Plan 2020-2030*. Dakar: ECOWAS. Abgerufen am 01. July 2020 von https://www.gfddr.org/sites/default/files/publication/ECOWAS%20GSAP_EN_Final.pdf
- FAO. (2015). *The Impact of Natural Hazards, and Disasters on Agriculture, Food Security and Nutrition*. Pakistan: FAO.
- German Committee for Disaster Reduction (Ed.). (2012). *Detecting Disaster Root Causes – A Framework and*. Bonn: DKKV Publication Series 48 .
- Ginige, K., Amaratunga, D., & Haigh, R. (2002). *Gender mainstreaming in disaster reduction: Why and how?*. Abgerufen am 19. March 2020 von https://www.researchgate.net/publication/46297636_Gender_mainstreaming_in_disaster_reduction_Why_and_how
- Hofnie, J. (May 2019). SADC Ministers for Gender and Women's Affairs meet to review implementation of the SADC Gender Programme. (B. Lopi, Hrsg.) *Inside SADC*(5), 6. Abgerufen am 12. May 2020 von https://www.sadc.int/files/2915/6087/7149/Inside_SADC_May_2019_.pdf

- IFRC. (kein Datum). *IFRC*. Von What is a Disaster? International Federation of the Red Cross.: <https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/> abgerufen
- IFRC. (kein Datum). *International Federation of the Red Cross*. Von <https://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/> abgerufen
- International Federation of Red Cross, and Red Crescent Societies. (2013). *A guide to Mainstreaming Disaster Risk Reduction and Climate Change Adaptation*. Geneva: International Federation of Red Cross, and Red Crescent Societies.
- IPCC. (2015). *Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. New York: Cambridge University Press.
- IPCC. (2018). *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change,.* In Press. Von <https://www.ipcc.ch/sr15/chapter/glossary/> abgerufen
- ISO. (2009). *Risk management — Risk assessment*. Von ISO 31010: https://www.academia.edu/27106466/ISO_31010_FDIS abgerufen
- ISO. (2018). *International Standards Organisation*. Von ISO 31000: <https://www.praxiom.com/iso-31000-terms.htm> abgerufen
- IUCN. (n.d.). *Disaster and Gender Statistics*. Von International Union for the Conservation of Nature: https://www.unisdr.org/files/48152_disasterandgenderstatistics.pdf abgerufen
- M & E Studies. (n.d.). *What is Performance Monitoring Plan (PMP)?* Von M & E Studies: <http://www.mnestudies.com/monitoring/what-performance-monitoring-plan-pmp> abgerufen
- Moriarty, K. (2018). *Safe Schools: the Hidden Crisis. A framework for action to deliver Safe, Non-violent, Inclusive and Effective Learning Environments*.
- Neumayer, E., & Plümper, T. (2007). *The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981–2002*. *Annals of the Association of American Geographers*, 97:3, 551-566. doi:10.1111/j.1467-8306.2007.00563.x
- Nyamweda, T., & Morna, C. L. (2019). *State of Women in SADC*. Johannesburg: SADC GENDER PROTOCOL ALLIANCE. Abgerufen am 12. May 2020 von <https://genderlinks.org.za/wp-content/uploads/2019/08/StateOfWomenSADC2019rev2.pdf>
- Pacific, U.N. (2017). *Mainstreaming Disaster Risk Reduction for Sustainable Development: A Guidebook for the Asia-Pacific*. United Nations Economic, and Social Commission for Asia, and the Pacific.

- Papowitz, H. (n.d). *Disaster Risk Reduction and Health*. Von <http://unicefinemergencies.com/>:
http://unicefinemergencies.com/downloads/eresource/docs/DRR/DRR_ONE_PAGE_R_HEALTH.pdf abgerufen
- (2019). *Protocol on Industry*. SADC.
- Rajagukguk, T. M. (2018). *Investigating the Practice of Disaster Risk Reduction Mainstreaming into Development: The Experience of a Development Organization*. Lund: Division of Risk Management and Societal Safety, Faculty of Engineering Lund University.
- (2012). *Regional Infrastructure Development Master Plan, Executive Summary*. SADC.
- SADC. (1996). *Protocol on Energy in the Southern African Development Community (SADC) Region*. Windhoek, Republic of Namibia: SADC.
- SADC. (1996). *Protocol on Trade in the Southern African Community Development (SADC) Region*. SADC.
- SADC. (1999). *Protocol for Wildlife Conservation, and Law Enforcement*. Maputo: SADC.
- SADC. (1999). *Protocol on Health in the Southern African Development Community*. SADC.
- SADC. (2002). *Protocol on Forestry*. SADC.
- SADC. (2006). *Protocol on Fisheries*. SADC.
- SADC. (2007). *SADC Gender Policy*. Von SADC:
https://www.sadc.int/files/8414/0558/5105/SADC_GENDER_POLICY_-_ENGLISH.pdf abgerufen
- SADC. (2011). *Regional Guidelines for the Regulation of Food Safety in SADC Member States. Food Safety – Capacity Building on Residue Control Project, FANR*. Gaborone: SADC.
- SADC. (2014). *Food, and Nutrition Security Strategy: 2015 – 2025*. Gaborone: SADC.
- SADC. (2014). *Regional Agricultural Policy*. Gaborone, Botswana.: SADC.
- SADC. (June 2014). *SADC Guidelines On Gender Responsive Budgeting*. Von SADC:
https://www.sadc.int/files/8914/4681/2781/SADC_GUIDELINES_ON_GENDER_RESPONSIVE_BUDGETING.pdf abgerufen
- SADC. (2014). *SADC Industrialization Strategy and Roadmap*. Von SADC:
https://www.sadc.int/files/2014/6114/9721/Reprising_Final_Strategy_for_translation_051015.pdf abgerufen
- SADC. (2015). *Assessment report on mainstreaming and implementing disaster risk reduction measures in Southern Africa*. Gaborone, Botswana : SADC.
- SADC. (2016). *Agreement Amending the SADC Protocol on Gender and Development*. Von SADC: <https://www.tralac.org/documents/resources/sadc/1187-agreement->

amending-the-sadc-protocol-on-gender-and-development-31-august-2016/file.html
abgerufen

- SADC. (2016). *SADC Regional Vulnerability Assessment, and Analysis Synthesis Report 2016, State of Food Insecurity, and Vulnerability in the Southern African Development Community. Regional Vulnerability Assessment, and Analysis (RVAA) Annual Dissemination*. Gaborone: SADC.
- SADC. (2016). *SADC Strategy on Financial Inclusion, and SME's acceded to Finance 2016 - 2021*. Gaborone, Botswana: SADC.
- SADC. (2017). *Food Security Early Warning System Agromet Update, 2016/2017 Agricultural Season*. Gaborone: USAID/FEWS NET.
- SADC. (2017). *Investment, and Implementation Management Plan (2017 – 2022) for the Regional Agricultural Policy*. Gaborone, Botswana: SADC.
- SADC. (2017). *SADC Disaster Preparedness and Response Strategy and Fund 2016-2030*. Gaborone: SADC.
- SADC. (2017). *SADC Regional Vulnerability Assessment, and Analysis Synthesis Report 2017, State of Food Security, and Vulnerability in the Southern African Development Community*. . Gaborone: National Vulnerability Assessment Committee (NVAC).
- SADC. (2017). *Summary of the SADC Revised Regional Indicative Strategic Development Plan 2015-2020*. Gaborone, Botswana: SADC. Abgerufen am 23. March 2020 von https://www.sadc.int/files/5415/2109/8240/SADC_Revised_RISDP_2015-2020.pdf
- SADC. (2017). *Summary of the SADC Revised Regional Indicative Strategic Development Plan 2015-2020*. Gaborone, Botswana: SADC.
- SADC. (2018). *Regional Strategy on Women, Peace and Security 2018-2022*. SADC.
- SADC. (2019). *Development of a SADC Gender-responsive Disaster Risk Reduction Strategic Plan and Plan of Action 2018-2030*.
- SADC. (2019). *Framework for Mainstreaming Climate Change Adaptation (CCA) in Vulnerability Assessment, and Analysis (VAA)*. Gaborone, Botswana: SADC.
- SADC. (2020). *Draft SADC Resilience Framework 2020- 2030*. Gaborone: SADC.
- SADC. (27. March 2020). *RISDP 2020-2030 Blue Prints 4th Draft*. Gaborone: SADC.
- SADC. (2020). *SADC Revised Regional Indicative Strategic Development Plan 2020-2030*. Gaborone, Botswana: SADC. Abgerufen am 23. March 2020 von https://www.sadc.int/files/5415/2109/8240/SADC_Revised_RISDP_2015-2020.pdf
- SADC Gender Unit. (2012). *Gender*. Von SADC : <https://www.sadc.int/issues/gender/>
abgerufen
- SADC Secretariat. (2009). *SADC Gender Mainstreaming Resource Kit*. Not Provided: SADC. Abgerufen am 19. March 2020 von https://www.sadc.int/files/2114/0558/6128/SADC_GENDER_MAINSTREAMING_RESOURCE_KIT.pdf

- SADC Secretariat. (2017). *Development of the Inventory of the Disaster Risk Management (DRM) Status, Resources and Services, and Implementation of DRM Programmes in South Africa*. Gaborone. Abgerufen am 29. June 2020 von <https://www.sadc.int/opportunities/procurement/procurement-archive/development-inventory-disaster-risk-management-drm-status-resources-and-services-and-implementation-drm-programmes-south-africa1/>
- SADC(a). (2020). *Outcome of the SADC Council of Ministers Virtual Meeting held on 29th May, 2020*. Gaborone: SADC. Abgerufen am 29. June 2020 von https://www.sadc.int/files/4315/9095/3587/OUTCOMES_OF_THE_VIRTUAL_MEETING_OF_SADC_COUNCIL_OF_MINISTERS_HELD_ON__29TH_MAY_2020.pdf
- SADC, SARDC. (2016). *SADC Gender and Development*. Gaborone, Harare: SARDC. Von https://www.sadc.int/files/8415/0340/7935/SGDM_2016_ENGLISH.pdf abgerufen
- SADC10. (14. August 2001). *Agreement amending the Treaty of the Southern African Development Community*. Von SADC: https://www.sadc.int/files/6815/6525/0300/Agreement_Amending_the_Treaty_-_2001_-_English.pdf abgerufen
- SADC11. (1992). *Consolidated Text of the Treaty of the Southern African Development Community*. Windhoek: SADC Secretariat.
- SADC2. (2008). *Protocol on Gender and Development (2008)*. Von Southern African Development Community: https://www.sadc.int/documents-publications/show/Protocol_on_Gender_and_Development_2008.pdf abgerufen
- SADC3. (2012). *Gender Unit*. Abgerufen am 12. May 2020 von Southern African Development Community: <https://www.sadc.int/sadc-secretariat/directorates/office-executive-secretary/gender-unit/>
- SADC4. (2018). *Regional Gaps Analysis and Development of Regional Programme to Improve Industrial Competitiveness of SADC Member States*. Von INDUSTRIAL DEVELOPMENT & TRADE: https://www.sadc.int/files/7915/9232/1455/FINAL__REPORT_SADC-Proposed_Capacity_Building_Program-EARCDF.pdf abgerufen
- SADC4. (2019). *SADC Gender Protocol 2018 Barometer*. Abgerufen am 14. May 2020 von SADC: <https://genderlinks.org.za/wp-content/uploads/2018/08/Barometer-2018-Executive-Summary.pdf>
- SADC5. (n.d.). *Food Agriculture & Natural Resources*. Von SADC: <https://www.sadc.int/sadc-secretariat/directorates/office-deputy-executive-secretary-regional-integration/food-agriculture-natural-resources/> abgerufen
- SADC6. (2015). *Documents & Publications*. Von SADC: https://www.sadc.int/files/1914/8474/1374/SADC_Handbook_on_Mainstreaming_Gender_in_the_Water_Sector.pdf abgerufen

- SADC8. (2020). *English Job Profiles - Vacancy Announcement*. Von SADC: https://www.sadc.int/files/3616/0331/3259/ENGLISH_JOB_PROFILES.pdf abgerufen
- SADC9. (n.d.). *INTERNAL AUDIT & RISK MANAGEMENT*. Von SADC: INTERNAL AUDIT & RISK MANAGEMENT abgerufen
- Southern African Development Community. (kein Datum). *Southern African Development Community*. Von <https://www.sadc.int/sadc-secretariat/directorates/office-executive-secretary/organ-politics-defense-and-security/>. abgerufen
- SRK. (2019). *FACILITATE MAINSTREAMING OF DISASTER RISK REDUCTION INTO SADC SECRETARIAT DEVELOPMENT PLANS AND STRATEGIES - SADC/3/5/2/40*. Pretoria: SRK.
- (2015). *Tourism and Disaster Risk*. Sendai: United Nations: UN World Conference on Disaster Risk Reduction.
- Twigg. (2004). *Disaster risk reduction: mitigation and preparedness in development and emergency programming*. Overseas Development Institute (ODI).
- Twigg. (2004). *Disaster risk reduction: mitigation and preparedness in development and emergency programming*. Overseas Development Institute (ODI).
- Twigg. (2015). *Disaster Risk Reduction, Good Practice Review 9*. London: Overseas Development Institute.
- Twigg, J. (2004). *Disaster risk reduction: mitigation and preparedness in development and emergency programming*. Overseas Development Institute (ODI).
- Twigg, J. (2015). *Disaster Risk Reduction, Good Practice Review 9*. London: Overseas Development Institute.
- UN Women. (8. December 2015). *Infographic: Human rights of women*. Abgerufen am 12. May 2020 von Human Rights Day: <https://www.unwomen.org/en/digital-library/multimedia/2015/12/infographic-human-rights-women>
- UNDMTP. (1992). *An Overview of Disaster Management*. Geneva: UNDP/UNDRO.
- UNDP. (2009). *Gender Equality and UNDP*. New York: UNDP. Abgerufen am 17. March 2020 von <http://www.undp.org/content/dam/undp/library/corporate/fast-facts/english/FF-gender-equality-2009-EN.pdf>
- UNDP. (2010). *Guidelines for Mainstreaming Disaster Risk Reduction*. Pakistan.
- UNDRR. (kein Datum). Von UNDRR Terminology: <https://www.undrr.org/terminology/> abgerufen
- UNDRR. (22. May 2017). *Terminology*. Von UNDRR: <https://www.preventionweb.net/terminology> abgerufen
- UNDRR. (2017). *UNDRR Terminology*. Von UNDRR: <https://www.preventionweb.net/terminology> abgerufen

- UNISDR. (2005). *UNISDR. Von Hyogo Framework for Action 2005-2015*: https://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf abgerufen
- UNISDR. (2009). *UNISDR Terminology*. Switzerland: United Nations International Strategy on Disaster Risk Reduction.
- UNISDR. (2015). *Monitoring and Evaluation Framework*. Von United Nations Office for Disaster Risk Reduction: https://www.preventionweb.net/files/49324_unisdrmeframeworkver1.0.pdf abgerufen
- UNISDR. (2017). *UNISDR Terminology*. Switzerland: United Nations International Strategy on Disaster Risk Reduction. Abgerufen am 21. 08 2020 von <https://www.undrr.org/terminology>
- UNISDR. (2018). *Sendai Framework for Disaster Risk Reduction 2015 - 2030*. Geneva: United Nations.
- United Nations - SDG. (2019). *Sustainable Development Goals*. Abgerufen am 15. May 2019 von <https://sustainabledevelopment.un.org/?menu=1300>
- United Nations. (2009). *Making Disaster Risk Reduction Gender-Sensitive*. Geneva, Switzerland: UNISDR, UNDP and IUCN. Abgerufen am 19. March 2020 von https://www.undp.org/content/undp/en/home/librarypage/womens-empowerment/gender_and_cpr/making_disaster_riskreductiongender-sensitivepolicyandpracticalg.html
- United Nations. (2015). *Agenda 2063. The Africa we Want*. African Union Commission.
- United Nations. (2015). *Sendai Framework for Disaster Risk Reduction 2015 – 2030*. Pakistan: UNISR.
- United Nations. (2015). *Tourism and Disaster Risk. UN World Conference on Disaster Risk Reduction*.
- United Nations. (2016). *Report of the open ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction*.
- United Nations. (2016). *Report of the open ended intergovernmental expert working group on indicators and terminology relating to disaster risk reduction*.
- United Nations Development Programme. (2020). *Equal rights. Equal contributors*. Geneva: UNDP. Abgerufen am 17. March 2020 von <https://www.undp.org/content/undp/en/home/2030-agenda-for-sustainable-development/people/gender-equality.html>
- van Niekerk, D., & Nemakonde, L. D. (2017). *Natural Hazards, and Their Governance in Sub-Saharan Africa*. . Oxford Research Encyclopaedia, Natural Hazard Science.
- Wahlström, M. (2009). *Making Disaster Risk Reduction Gender-Sensitive: Policy and Practical Guidelines*. (S. 24). UNISDR, UNDP and IUCN.
- Watuleke, J. (2015). *Mainstreaming Gender in Disaster Risk Reduction*. Makerere University. Kampala: BACE.

World Bank. (2015). *Disaster Risk Management in the Transport Sector - A Review of Concepts and International Case Studies*. Washington.

Annexures

Annex 1: Mainstreaming DRR in Agriculture Food Security and Nutrition Measures

Section	Targets	Indicators	Responsibility	Timelines
Priority 1. Understanding disaster risks in the Agriculture, Food Security and Nutrition Sector	(i) Identify and document all risks for the Agriculture, Food Security and Nutrition Sector;	Regional Agriculture Disaster Risk Profile of the SADC region.	FANR/DRR Unit MS	2024
		Priority disaster risks for the region.	MS	
		Disaster risk maps.	FANR/DRR Unit MS	
	(ii) Review agriculture policies and frameworks to ensure the adoption of the provisions of DRR through the disaster management cycle in the agriculture sector;	Revised Agriculture Frameworks.	MS	2028
	(iii) Promote Sharing and harmonization of methodologies and practices for preparedness, response, and recovery;	Agriculture Peer Review Reports focusing on Disasters Risk Reduction measures.	FANR/DRR Unit MS	2026
	(i) Harmonize methods and tools for assessing damage and losses caused by disasters in the agricultural sector that takes into consideration the economic, social, and environmental dimensions;	Assessment Reports covering economic, social and environmental dimensions. Social impact assessment reports. Environment impact assessment reports incorporating DRR practices.	MS	2026

Section	Targets	Indicators	Responsibility	Timelines
	(v) Promote risk data and information management, including for early warning to enhance the understanding of risks for the agriculture sector, for informed decision-making, both at the producer, government and other stakeholder levels associated with the agriculture, food security and nutrition;	National Agriculture Information Management Systems incorporating DRR measures.	MS	2026
	(vi) promote regional and sub-regional platforms and networks to link the academic, scientific and technological community with policymakers and other relevant agriculture sector stakeholders to promote knowledge sharing on disaster risk, good practices and technologies among countries and institutions for resilience building and enhance livelihoods;	Functional regional and sub-regional platforms and networks.	FANR/DRR Unit MS	2025
	(vii) Promote resilience building agro-based indigenous knowledge and local practices for early warning, conservation including local agro-biodiversity technologies that addresses specific needs and interests of vulnerable groups including women farmers during disasters;	Number of agro-based resilience building indigenous knowledge products and practices adopted.	MS	2025
Priority 2. Strengthen disaster risk governance in the	(i) Promote mainstreaming of DRR and CCA practices that contribute to agriculture, Food Security and Nutrition resilience in respective agriculture sector instruments at the regional, sub-regional and national levels;	Number of CCA and DRR approaches adopted by the agriculture sector.	MS	2025

Section	Targets	Indicators	Responsibility	Timelines
agriculture sector and FSN	(ii) Encourage collaboration between the agriculture, livestock, forestry, aquaculture and fisheries and strengthen technical and institutional capacities for planning, implementation, monitoring and evaluation to ensure the adoption of DRM and CCA provisions at all levels of the sector;	Multi-stakeholders' committees comprising agriculture, livestock, forestry, aquaculture and fisheries. Number of Training/Capacity building sessions.	MS	2025
	(iii) Enhance abilities for monitoring and reporting on damage and losses in the agriculture Food Security and Nutrition Sector from disasters;	Number of people trained in loss and damage assessments. Damage and loss databases.	MS	2026
	(iv) Promote regional mechanisms for monitoring developments in the mainstreaming of DRM in the Agriculture Sector;	Regional Assessments/M&E Reports focusing on mainstreaming of DRR in Agriculture.	FANR/DRR Unit MS	2026
	(v) Enhance interagency collaboration to enhance synergies avoid duplications and foster the coherence of DRM actions between the agriculture, environment, and other relevant sectors to enhance the resilience of rural livelihoods and FSN;	Minutes of interagency meeting. Number of collaborative actions undertaken.	MS	2025
	(vi) Set and promote minimum standards among regional, sub-regional and national institutions for addressing cross-border plant and animal health and food safety;	Regional standards for addressing cross-border plant and animal health and food safety issues.	FANR/DRR Unit MS	

Section	Targets	Indicators	Responsibility	Timelines
	(vii) Promote cross-border cooperation for policy and planning during the implementation of a shared ecosystem watersheds and marine-coastal resources, to increase resilience and reduce disaster risk in the agriculture sector;	Shared ecosystems instruments aimed at building cross border resilience.	FANR/DRR Unit MS	2027
Priority 3. Invest in disaster risk reduction for resilience building in the agriculture sector and FSN	(i) Promote harmonization and alignment between land use planning regulations, agriculture and food production standards that incorporate risk assessment;	Land use plans that incorporate disaster risks.	MS	2026
	(ii) Strengthen public and private investments that promote environmentally friendly and sustainable resilient agricultural development that is climate and disaster risk-sensitive and competitive in the medium and long term;	Number of public/private investments in resilience building.	MS	2025
	(iii) Promote technical cooperation and sharing of best economic practices, including financial instruments for disaster risk reduction focusing on among others the development of insurance schemes to reduce disaster risk and promote recovery;	Number of exchange visits. Number of Member States with insurance schemes.	MS	2025
	(iv) Strengthen the training of mothers and caretakers on acute and chronic malnutrition and encourage investments in nutrition enhancing programmes such as Immunisation, VAS and MUAC screening in the Member States;	Percentage decrease in chronic (stunting) levels by 5% and acute (wasting) malnutrition by 1%.	SHD	2030

Section	Targets	Indicators	Responsibility	Timelines
	(v) Promote resource mobilization from funding mechanisms such as climate funds, and public-private partnerships and multi-country organisations for DRM and CCA of rural livelihoods;	Accreditation with Funding mechanisms. Number of applications for funding.	MS	2027
Priority 4. Enhance disaster preparedness for effective response and a better recovery, rehabilitation and reconstruction including building back better of agriculture sector infrastructure	(i) Link regional, sub-regional and national level early warning systems with agriculture sector institutions responsible for coordinating disaster risk assistance at the national level, to ensure delivery of accurate and user targeted information on agricultural and FSN hazards for prompt decision-making by producers, governments and other relevant stakeholders;	Early warning information mechanisms and channels.	FANR/DRR Unit MS	2025
	(ii) Facilitate the development of mechanisms, contingency plans and for effective and prompt response by the agriculture sector including for cross-border hazards;	Agriculture/DRR Contingency plans.	MS	2026
	(iii) Promote regional collaboration for the prompt delivery of disaster response, rehabilitation, recovery and reconstruction needs for the agriculture, food security and nutrition sector, which includes considerations for the development of food and financial reserves and other mechanisms for the restoration of ecosystems functionality;	Regional DRR collaboration instruments and bodies.	MS	2025
	(iv) Enhance abilities and sharing of good practices for livelihood rehabilitation, recovery and reconstruction that promotes “building back better” approaches.	Peer Review Reports focusing on Disasters Risk Reduction measures Building codes for agriculture infrastructure	MS	2030



Implemented by *Mis en oeuvre par:*

