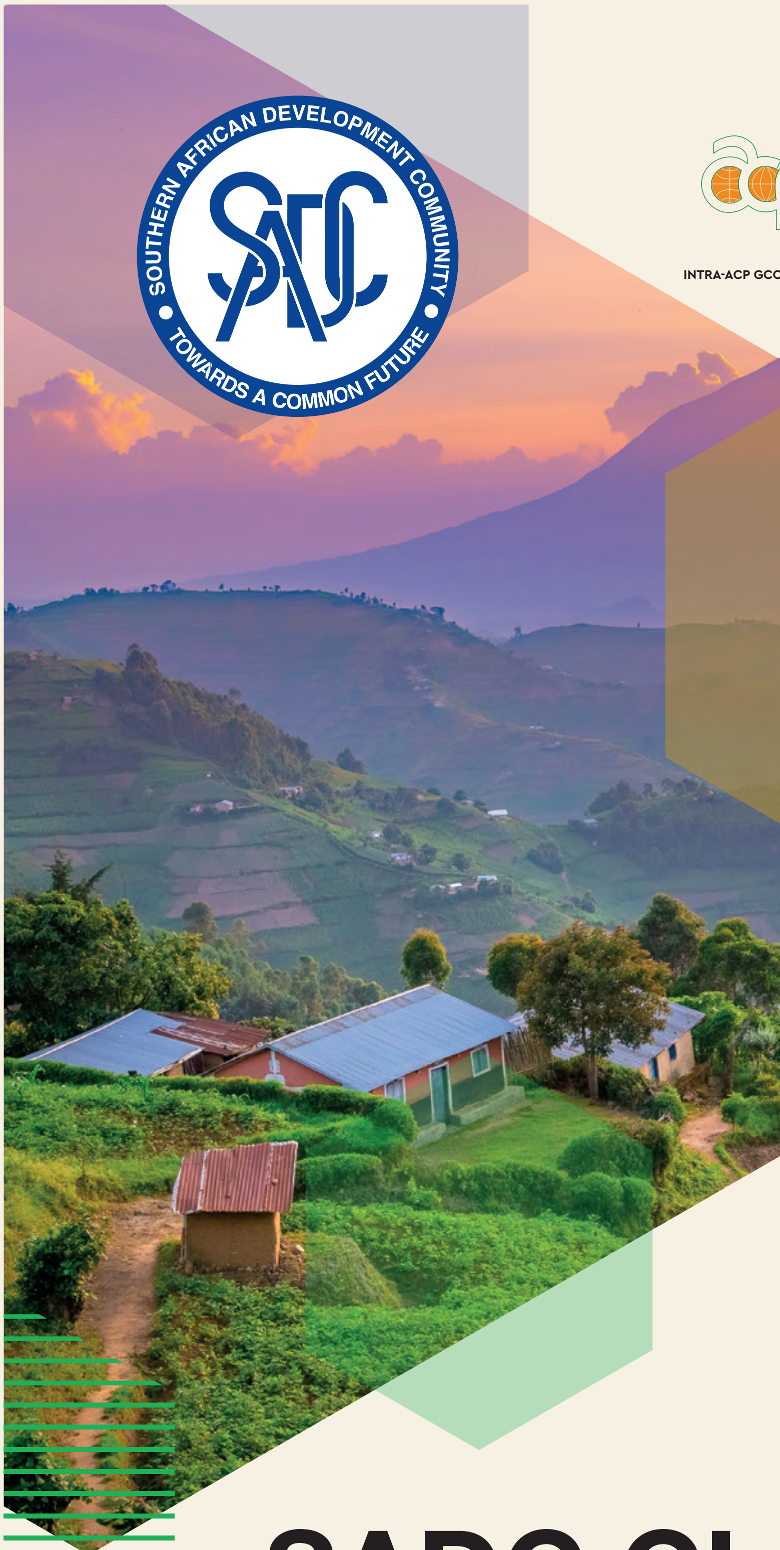

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THE GLOBAL CLIMATE CHANGE ALLIANCE PLUS INITIATIVE

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SADC CLIMATE CHANGE STRATEGY AND ACTION PLAN 2020 - 2030

Further details of this publication may be sourced from the SADC Secretariat

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ACRONYMS

1/CP.16	Decision 1 of the 16th Conference of Parties to the UNFCCC
ABS	Access and Benefit Sharing
ACF	African Climate Fund
AFC	Africa Finance Corporation
ADF	African Development Fund
AfDB	African Development Bank Group
AGN	African Group of Negotiators
AMCEN	Africa Ministerial Conference on Environment
AU	African Union
AUC	Africa Union Commission
CCA	Climate Change Adaptation
CAADP	Comprehensive African Agricultural Development Programme
CAHOSCC	Committee of African Heads of State and Government on Climate Change
CCSAP	Climate Change Strategy and Action Plan
CFTA	Common Free Trade Area
CITES	Convention on International Trade in Endangered Species
COMESA	Common Market for Eastern and Southern Africa
COP 21	Conference of Parties 21
COVID-19	Coronavirus Disease 2019
CSC	Climate Service Centre
CSO	Civil Society Organisation
CTCN	Climate Technology Centres and Networks
CTWG	Cross-Sectoral Technical Working Group on Climate Change
DBSA	Development Bank of Southern Africa
DRC	Democratic Republic of the Congo
DRR	Disaster Risk Reduction
EbA	Ecosystem-based adaptation
EIA	Environmental Impact assessment
FANR	Food, Agriculture and Natural Resources
FAO	Food and Agricultural Organisation
FLEGT	Forest law Enforcement, Governance and Trade
GCF	Green Climate Fund (of the UNFCCC)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
HIV/AIDS	Human Immune Virus / Acquired Immune Deficiency Syndrome
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unregulated and Unreported
IWRM	Integrated Water Resources Management
LULUCF	Land Use, Land Use Change and Forestry
M&E	Monitoring and Evaluation
MAPP	Multi-country Agricultural Productivity Programme

MRV	Measurement, Reporting and Verification
MCS	Monitoring, Control and Surveillance
MEA	Multilateral Environmental Agreements
MS	Member States
NAMAs	Nationally Appropriate Mitigation Actions
NAPAs	Nationally Appropriate Plans of Adaptation
NbS	Nature based Solutions
NDC	Nationally Determined Contributions
NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organisation
NIE	National Implementing Entity
NOAA	National Oceanic and Atmospheric Administration
NVAC	National Vulnerability Assessment Committee
PA	Protected Areas
R&D	Research and Development
RAP	Regional Agricultural Policy
RAIP	Regional Agricultural Investment Plan
RASAP	Regional Aquaculture Strategy and Action Plan
REDD+	Reducing Emissions through Avoided Deforestation and Land Degradation
RDF	Regional Development Fund
REEESAP	Renewable Energy and Energy Efficiency Strategy and Action Plan
RE/EE	Renewable Energy and Energy Efficiency
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Revised Regional Indicative Strategic Development Plan
RVAA	Regional Vulnerability Assessment and Analysis Synthesis Reports
RVAC	Regional Vulnerability Assessment Committee
SADC LEAP	SADC Law Enforcement and Anti-Poaching Strategy
SASSCAL	Southern Africa Science Service Centre for Climate Change and Adaptive Land use
REC	Regional Economic Community
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SFDRR	Sendai Framework for Disaster Risk Reduction 2015-2030
TK	Traditional Knowledge
UNCBD	United Nations Convention on Biological Diversity
UNFCCC	United Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNWTO	World Tourism Organization
USAID	United States Agency for International Development
WHO	World Health Organisation
WRI	World Resources Institute
WTTC	World Travel & Tourism Council
ZAMCOM	Zambezi River Basin Commission

EXECUTIVE SUMMARY

Climate change is a defining human development challenge of the 21st century, and its impacts are among the most urgent issues facing decision-makers worldwide. The effects of climate change that have already occurred are widespread and significant, affecting agriculture, energy, human health, terrestrial and marine ecosystems, water resources, and other sectors across the world.

The African Union's Agenda 2063 acknowledges that even though the continent contributes less than 5% of global GHG emissions, it is the region most vulnerable to climate variability and change, a situation that is aggravated by the interaction of multiple stresses, including high dependence on rain-fed agriculture, widespread poverty and weak adaptive capacity (Intergovernmental Panel on Climate Change Assessment Report 5). The SADC region is non-uniform in terms of socio-economic development, with many economies being small and/or undiversified, and pronounced inequalities and poverty, low levels of education, inequitable access to resources and services, and skewed regional migration, amongst other factors. According to the Southern African Development Community (SADC) Regional Indicative Strategic Development Plan (RISDP, 2020-2030), the region is among the poorest in the world, with nearly half of the total population in the region living on less than one US dollar per day.

The region is also contending with challenges such as high population growth and shifts in demographics; in food and energy provision and pricing; urbanisation; land degradation and depletion of natural resources, water insecurity and transboundary diseases - all of which affect the development trajectory of the region. Rural populations, in particular, are affected due to their widespread dependence on natural resources, lack of alternative livelihood support, low adaptive capacity, as well as limited access to agricultural inputs and innovations, credit and markets, among others.

SADC is currently experiencing, and will continue to experience, several climate hazards, including heat waves, strong winds, drought and extreme rainfall . The occurrence and severity of droughts in the region are likely to worsen due to increases in temperature and changes in rainfall . There remains a level of uncertainty around how climate change will impact mean rainfall in the region , however, extreme rainfall is expected to increase over large parts of the region, leading to an increase in flooding, landslides, soil erosion and a spread of pests and diseases. While vulnerability across the SADC region varies, medium-high climate risk is widespread for extreme rainfall and droughts across Angola, the Democratic Republic of the Congo (DRC), Tanzania, Mozambique, Madagascar and the Eastern Cape in South Africa . There is also a reduction and greater unpredictability of water supply due to climate variability and warming temperatures across the region. As the region grapples with these shifts, agricultural production will need to be increased by approximately 50% by 2050 to meet the needs of the region's growing population. These climate extremes can erase years of investment and progress in national development – it threatens health, livelihoods, infrastructure and a wide range of economic sectors, while addressing disaster risk and recovery, relief programmes and other responses to climate disasters may require nations to redirect limited resources intended for other development priorities.

Over the period 2007-2018, the SADC region has experienced an average 3.37% economic growth. This growth largely stemmed from climate-sensitive sectors, including service sectors (such as tourism and hospitality, real estate, banking, transport), industry and agriculture. It is therefore important for the

region to climate-proof these primary growth sectors and develop plans to safeguard the attainment of the region's broader development objectives.

Given that climatic and ecological regions transcend national political boundaries, Regional Economic Communities (RECs) are integral in the formulation and implementation of climate responses. It is within this context that the SADC region, through the SADC Secretariat, has developed this SADC Climate Change Strategy and Action Plan (CCSAP), to provide a broad outline for harmonized and coordinated regional actions to address and respond to the impacts of climate change and to plan for a low-carbon resilient future.

The overarching objective of this Strategy is to enhance the adaptive capacities and resilience of Member States (MS) with a view to minimizing their vulnerability; pursue a low-carbon growth path dictated by the principles of poverty reduction, sustainable resource use and circular economy; and orient governance, knowledge systems, planning, and national/regional/international structures to addressing climate change as a development imperative.

The SADC CCSAP seeks to align existing regional protocols, policies and strategies governing key sectors in relation to the regional response to climate change. The CCSAP aims to ensure that SADC's overarching strategies, Vision 2050 and RISDP 2030, are aligned with these low-carbon and resilience building goals. The SADC CCSAP is in line with, and aims to support, the global and continental objectives set by the United Nations Framework Convention on Climate Change (UNFCCC), the Africa Union Commission (AUC) and other regional institutions. The Strategy also supports the national climate efforts of its 16 MS, in particular, the implementation of the region's Nationally Determined Contributions (NDCs) to the Paris Agreement, as well as the decarbonisation visions contained in member countries' mid-century, low-carbon, climate resilient strategies.

Future-orientated planning for climate-resilient development will require strategic interventions and actions that consider multiple trends, drivers of change, scenarios, and uncertainties in the SADC region. SADC MS need to strengthen their governance systems and policy responses to enhance long-term climate-resilient development in the region. This includes foresight tools, methods and approaches that can enhance planning, ensuring it future proofed to address both current and longer-term threats. Foresight, as a structured set of processes, with stakeholder engagement and evidence, ensures strategies and policies have robustly considered multiple uncertain futures, and is a systemic shift in policy development away from reactive and short-term planning approaches towards building strategic approaches to anticipate and adequately plan for climate change induced risks and impacts.

The CCSAP can assist SADC to take advantage of opportunities related to the transition to a low-carbon, green economy, opportunities that catalyse the socio-economic transformation of the SADC Region towards more equitable, resource efficient, environmentally sustainable, climate-change resilient, development pathways. There are also numerous opportunities for alignment of CCSAP with Agenda 2030, and its related Sustainable Development Goals (SDGs), for example, in the transition towards sustainable production, distribution and consumption of goods and services, that will result in improved human wellbeing and economic growth, while

mitigating the exposure of future generations to significant environmental risks and ecological scarcities.

The CCSAP is a 15-year strategic planning document (2015-2030) that sets out a climate-resilient pathway for the region, with 5-year review planning cycles. This Strategy seeks to ensure that effective institutions, strategies, and choices for risk management are identified, implemented, and sustained as an integrated part of achieving sustainable development as framed by the Paris Agreement, the SDGs, as well as Agenda 2063.

The key principles on which the CCSAP is built include: 'to leave no one behind/ a just transition; science, knowledge and practice; local ownership; capacity building; a balanced approach to adaptation and mitigation; cross-sectoral alignment and integration; gender mainstreaming; communication, advocacy and awareness raising; the avoidance of maladaptation; and democracy and decentralisation.

The CCSAP outlines multiple sector-based adaptation and mitigation interventions. The CCSAP prioritises strategies and actions for adaptation according to the level of associated vulnerability of the region to climate change. Strategic interventions and actions for mitigation are mainly aimed at triggering nationally and regionally determined contributions within the context of common but differentiated responsibilities and respective capabilities across the MS, whilst prioritizing responses with adaptation and development of co-benefits.

The SADC CCSAP requires specific 'means of implementation' initiatives centred on:

1. **Climate finance and resource mobilization** to raise financial resources in support of the Strategy's implementation.
2. **Communication, advocacy and awareness** of climate change issues in the region so as to stimulate public interest and debate, as well as promote inclusive, multiparty policy making.
3. **Institutional arrangements and governance**, which places the SADC Secretariat at the centre of coordination for the implementation of the Strategy and delineates responsibilities and reporting requirements at both Member States and Secretariat levels.
4. **Technology development and transfer** for enhanced implementation of actions that achieve the overall goal of the Strategy.
5. **Multi-stakeholder Partnerships** to promote inclusive stakeholder governance and buy-in for Strategy implementation.
6. **Inclusion of marginalised and vulnerable groupings**, including women and youth.

Monitoring and evaluation has also been incorporated in the Strategy to allow for tracking and measuring the successful implementation of the Strategy.

The role out of this Strategy requires a dedicated amount of financial support. This is expected to cost approximately US$ 53.22 Million, over a period of five (5) years. This estimated budget is composed of US$34.1 million for adaptation; US$12.95 million for mitigation and approximately US$6.17 million for supporting institutional, planning and coordination of implementation, as well as monitoring and evaluation aspects.

01
INTRODUCTION AND BACKGROUND

Climate change is undoubtedly one of the major developmental challenges of our time. The UNFCCC defines climate change as that change of climate that is attributed directly or indirectly to anthropogenic interference that alters the composition of the global atmosphere, and that is in addition to natural climate variability observed over comparable time periods. A schematic framework representing anthropogenic drivers, impacts of and responses to climate change, and their linkages, is shown in Figure 1 below.

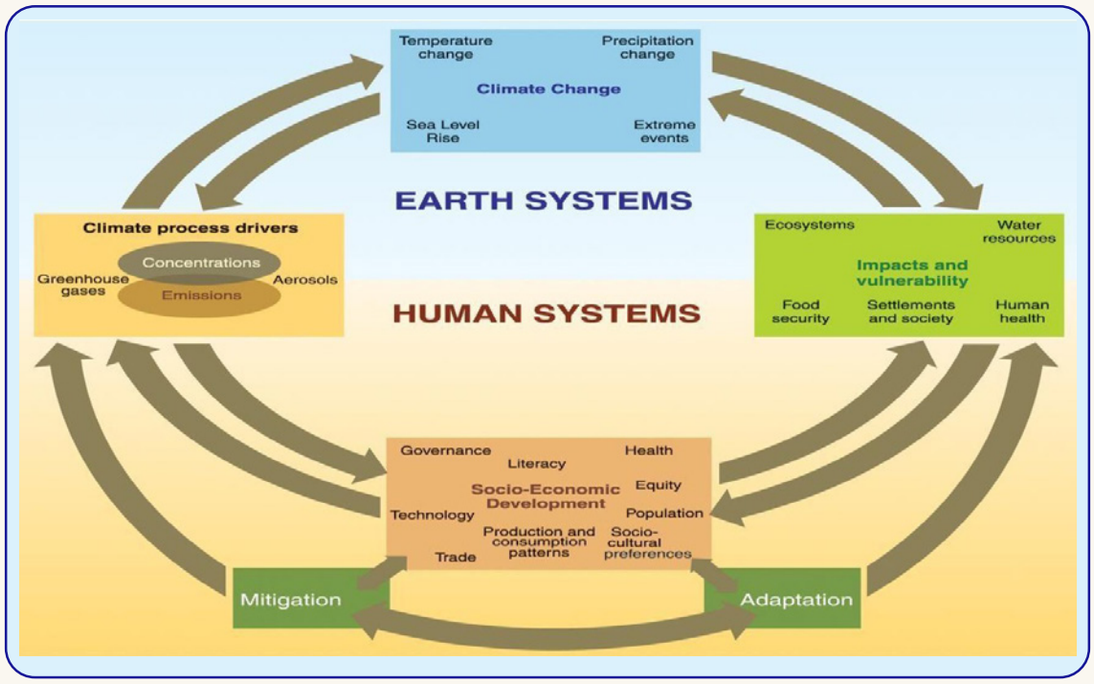


Figure 1: Schematic framework representing anthropogenic drivers, impacts of and responses to climate change, and their linkages

There is increasing scientific knowledge and evidence to illustrate the current and potential future social, economic, and environmental impacts of climate change. Although the region's contribution to increasing concentrations of greenhouse gases (GHG) is small in proportion to other regions (albeit growing), the region is highly vulnerable to several severe impacts arising from climate change. These challenges are further exacerbated by other pressing socio-economic challenges and the low adaptive capacity of the region.

The impacts of climate change are (and will continue to) impede the region's economic growth and development prospects, including its efforts to reduce poverty, secure food and attain the SDGs. However, if climate change mitigation and adaptation is dealt with proactively, it can offer the region the opportunity to develop and grow its green and blue economies, provide social security, promote peace and stability, and enhance regional development through adaptation and mitigation interventions.

To safeguard the development gains achieved in the last few decades, and to highlight key climate opportunities, this revision of the CCSAP offers further clarity and detail on how the region intends to plan and implement its climate agenda over the next decade.

1.1 Strategic Context and Objectives

1.1.1 Rationale

In line with Article 12 of the provisions of the Protocol on Environmental Management for Sustainable Development, the SADC Region is mandated to develop legislative and administrative measures to enhance adaptation to the impacts of climate change, bearing in mind the diverse and gender differentiated levels of vulnerabilities and to take appropriate voluntary climate change mitigation measures. The CCSAP is also intended to support MS compliance with obligations under the UNFCCC and the Paris Agreement. SADC countries share common vulnerabilities to climate change and therefore this presents an opportunity for a regional approach in addressing adaptation challenges.

Vision Low carbon, climate-resilient development in the SADC region, leading to total decarbonization in 2050.

Goal To provide a regional framework for collective action and enhanced cooperation in addressing climate change issues in order to improve local livelihoods, achieve low-carbon, sustainable economic growth and contribute fairly towards preserving a global good.

1.1.2 Strategic Objectives

1. To reduce vulnerability and manage risks related to climate change and climate induced extreme events through the effective implementation of adaptation programmes.
2. To promote the reduction of GHG emissions to below business as usual levels taking into consideration the respective capabilities of MS, with an aim to limit global temperature rise by 1.5 degrees pre-industrial levels.
3. To enhance the region's ability and capacity to mobilise resources, access technology and build capacity to facilitate adaptation and mitigation actions. This includes climate finance.
4. To enhance inclusion, cooperation and ownership from a broad range of stakeholders, governmental and non-governmental, at various levels.

1.1.3 Guiding principles

The strategy is premised on the following principles:

- **Leave no one behind/ a just transition:** The CCSAP must address issues related to equity and justice, given that climate change has the potential to exacerbate current inequality in the region. This includes procedural, distributional and recognitional justice, especially in relation to who is most vulnerable, where the burden of adaptation lies, and how to mobilise resources for adaptation.
- **Science, knowledge and practice:** The Strategy must continue to draw on the best available science, knowledge and practice within the international, regional, and national context. This should be based on existing experiences, climate science and traditional knowledge and practices.
- **Local ownership:** Implementation of the Strategy should be guided by multi-level stakeholder participation and engagement to ensure ownership and sustainability. To encourage stakeholder support, a public participation process of comment on this draft strategy within each Member State is strongly encouraged.

- **Capacity Building:** Capacity building forms an integral part of the implementation of the Strategy, with a focus on sharing knowledge and best practices towards building sufficient capacity to implement climate change programmes in the region.
- **Balanced approach to adaptation and mitigation:** The Strategy seeks to support balanced responses for adaptation and mitigation, with provision of linkage between mitigation actions and adaptation efforts taking into consideration that low levels of mitigation ambition will exacerbate climate change and therefore require greater adaptation.
- **Alignment and integration:** The Strategy seeks to align and integrate key climate change considerations into other strategic planning processes and initiatives at regional and national levels.
- **Gender mainstreaming:** The Strategy takes into consideration the differentiated climate change adaptation and mitigation roles, responsibilities and needs of people in society, especially women, youth and other vulnerable groups.
- **Communication, advocacy and awareness rising:** Effective implementation of the Strategy is based on climate change-conscious society and therefore it should be made accessible to all stakeholders.
- **Avoidance of maladaptation:** The Strategy seeks to ensure that actions taken to address climate change have long-term beneficial effects on socio-ecological systems and avoids maladaptation.
- **Democracy and decentralisation:** The Strategy must be embedded in notions of sovereignty i.e. rights based, bottom up engagement with local communities and institutions, creating more localised systems, with decentralised control, through the mobilisation of diverse knowledge- all embedded in nature.

1.2 The SADC, Developmental Context and Climate Change

Established in 1992, the SADC is a Regional Economic Community (REC) comprising 16 Member States spanning over 556 781 km² with a diverse population of over 345 million (2018) (4.5% of the global population). The main objectives of SADC are to achieve development, peace and security, and economic growth for the region; to alleviate poverty, enhance the standard and quality of life of the peoples of Southern Africa, and support the socially disadvantaged through regional integration. To achieve this, the Secretariat - the principal executive institution for SADC - is responsible for strategic planning, co-ordination and management of all SADC Programmes, including climate change.

The 16 MS of SADC vary considerably in terms of their geographic makeup, demographic characteristics, and economic profile - some are landlocked, others have extensive coastlines, and four are island states in the Indian Ocean. Climate change projections across MS will also affect people, economies, and the environment differently. Some SADC

MS are confronted with risks from sea level rise and extreme weather, including stifling heat, intense rains, and powerful storm surges. Others face risks of more challenging conditions for food and agriculture, water, health, fisheries, infrastructure, transportation, and other livelihoods impacts. The portfolio and extent of national climate policies and institutional architecture in each member state also varies considerably in terms of the level of development, priority, ambition, focal areas, capacity to implement and budgetary allocations.

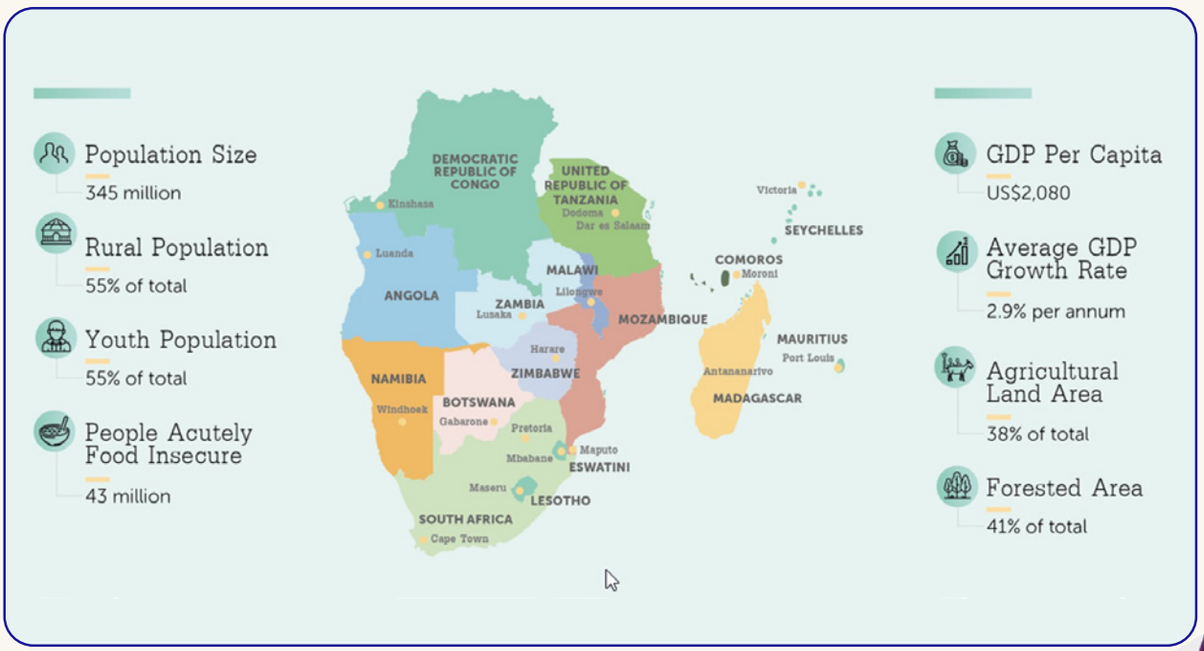


Figure 2: Growth and population statistics for SADC Member States (2018)

The SADC region registered an estimated average growth rate of 2.9% in 2018. The services, industry and agriculture sectors contribute approximately 59.4%, 20.3%, and 20.2% respectively to the regional economy (2015). Projections indicate a steady but increasing growth rate of between 5 - 8% up to 2025[I]. However, the region acknowledges critical constraints arising particularly in the water-energy-food nexus that can hinder the achievement of expected economic growth projections and the SDGs. These constraints are largely due to an increasing regional population, averaging at 2.68% growth per year, characterised by a formidable rise in the middle-income population and urban class, [39% of total population and rising by 3.39% across the

I. This was prior to the COVID-19 pandemic, which has already negatively impacted economic growth

region] whose consumption demands are rising, thus putting a strain on the natural resource base. Already this situation is exacerbated by high levels of poverty, with approximately half of the region's population living on less than $1 a day.

Given these constraints, it is critical for the SADC region to pursue a regional development pathway that is climate-resilient, sustainable, and inclusive, factoring in current and future climate change projections and associated risks. The region must think systematically about long-term trends if it is to improve the design and implementation of climate policies, and take advantage of opportunities arising from new technologies, sustained economic growth and new role players.

Positively, a common aspiration exists amongst MS for an integrated, climate-resilient development system, where the government, civil society and private sector are aligned, committed, and coordinated in shaping a climate-resilient future.

1.3 Supporting the global responses to climate change

With realisation of the detrimental impacts of climate change the global community, through the UNFCCC, has negotiated agreements which aim at stabilising GHG concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. The Convention states that such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner (UNFCCC, 1992). The Convention calls on all Parties to reduce their GHG emissions and to adapt to the impacts of changes in climate. A key milestone in global climate negotiations through the UNFCCC was the Paris Agreement (2015), which affirms the global consensus of the need to limit temperature increases to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees. To achieve this, countries are to peak their emissions as soon as possible and. are required to prepare, communicate, and maintain Nationally Determined Contributions (NDCs) to the PA targets and to pursue their implementation. NDCs are to be periodically revised, with each successive NDC required to represent a progression beyond the previous one and reflect the highest possible ambition.

The UNFCCC and the Paris Agreement are not implemented in isolation of other multilateral environmental agreements, which include, amongst others, the United Nations' Convention on Biological Diversity (UNCBD), the United Nations Convention to Combat Desertification (UNCCD), the 2030 Agenda for Sustainable Development and the Sendai Framework on Disaster Risk Reduction. Agenda 2030, for example, is a global commitment to eradicate poverty and achieve sustainable development by 2030, ensuring that no one is left behind. It sets out 17 Sustainable Development Goals (SDGs) which include SDG 13, which specifically addresses climate change. The SADC CCSAP recognises the importance of streamlining these processes and it therefore seeks to align its adaptation and mitigation priorities to other multilateral commitments and targets.

SADC CCSAP also supports other continental and regional climate frameworks and policy instruments, such as Agenda 2063 and the African Unions' draft Climate Change Strategy,

through the mutual understanding of impacts of climate change on development priorities in Africa, adapting economies, societies, natural resource management practices, energy investments, budgets and policies to its expected and uncertain consequences. Also, for some time, Africa has been developing a common position on climate change at the UNFCCC negotiations, which has served to unite the continent on key issues around adaptation, access to climate finance and other issues.

The CCSAP also intends to support its MS's national commitments to international climate change processes. The formulation and revision of the NDCs of MS need to be supported, as well as NDC implementation. A substantial portion of NDC commitments are conditional on the availability of support in the areas of finance, technology transfer and capacity building. Therefore, enhanced, predictable, sustainable, and facilitated access by African countries to climate finance is a catalyst to allow for the implementation of the NDCs through complementary regional actions. In the implementation of the CCSAP, it is recognised that MS are also already working to address climate change under commitments to the Bali Action Plan through Nationally Appropriate Mitigation Actions (NAMAs), National Adaptation Plans of Action (NAPAs), and various other sectoral strategies and plans. At regional level, the CCSAP therefore seeks to complement existing national-level sectoral protocols, policies, plans and regulations (see Annex 1).

1.4 Supporting the continental and regional frameworks dealing with climate change

The African Union's Agenda 2063, 'The Future We Want' seeks to support the achievement of an integrated, prosperous and peaceful Africa, an Africa driven and managed by its own citizens and representing a dynamic force in the international arena. Agenda 2063 recognises the importance of developing environmentally sustainable and climate resilient economies and communities. As such, Agenda 2063 aspirations include the sustainable management, consumption, and production of natural resources; national income accounts that fully reflect changes in renewable and non-renewable natural resources wealth; the conservation, sustainable utilisation and restoration of Africa's biodiversity, the promotion of sound and efficient water practices and technologies; the development of climate resilient low carbon production systems; the implementation of a comprehensive and robust disaster risk reduction and preparedness strategies; the implementation of an African Climate Fund (ACF) to address the continent's climate adaptation and mitigation concerns, including technology development; and the promotion of renewable energy, envisaged to comprise more than half of the energy consumption for households, businesses and organizations by 2063. Agenda 2063 further seeks to ensure that all urban buildings will be certified as energy smart and all urban mass transport will operate on renewable and low to zero emissions fuels by 2063. Regional power pools will be in place a few decades earlier, while continental power pools will be fully functional before 2063 thus making the continent well-lit and fully powered.

The CCSAP also supports the implementation of the AU Climate Change and Resilient Development Strategy (2022-2032) that focuses on four thematic pillars, including climate governance; research, education, awareness raising and advocacy; mainstreaming and integrating climate change imperatives in planning, budgeting, and development processes; and promoting national, regional, and international cooperation. The implementation of the African Climate Change Strategy will be coordinated through the African Union (AU), the Committee of African Heads of State and Government on Climate Change (CAHOSCC) and the African Ministerial Conference on the Environment (AMCEN). The implementation of the strategy will be achieved through the AU Member States, the RECs and other relevant entities.

1.5 Mainstreaming climate change into existing SADC Frameworks

The SADC CCSAP aims to enhance the implementation of SADC's existing regional policies and legislative frameworks. These include, at sector level, the SADC Green Economy Strategy for Sustainable Development and Action Plan; the Infrastructure Development Master Plan; the Industrialization Policy; the Regional Agriculture Policy; the SADC Science, Technology and Innovation Climate Change Response Framework; the SADC Climate Change Adaptation Strategy for the Water Sector, the SADC Resilience Framework; and the Protocol on Environmental Management for Sustainable Development, the Protocol on Forestry and Revised Protocol on Shared Water Courses, amongst others (please see Annex 1 for further details).

The SADC CCSAP also seeks to advance the overall objectives of the SADC Vision 2050 and SADC's RISDP (2020-2030). Vision 2050 sets a long-term desired future for the region and seeks to find common ground between different development aspirations, priorities, and interests among the 16 SADC Member States and other actors. The Vision is based on three related pillars, namely industrial development and market integration, infrastructure development in support of regional integration, and social and human capital development. The pillars also recognize the transversal components of gender, youth, environment and climate change, and disaster risk management. The RISDP is a comprehensive roadmap that provides the strategic direction for promoting regional integration and achieving SADC's long term social and economic goals from 2020-2030.

1.6 Overall framing of the SADC Climate Change Strategy and Action Plan Revision 2020

The revision of the SADC CCSAP strives to contextualise it within the framework provided by the World Bank Outlook 2020.[II] Given the ubiquitous nature of climate change cause and effects across whole economies, this useful guidance recommends including climate change in an integrated, cross-sectoral and holistic manner throughout national and regional economic planning. The guidance proposes a "whole-of-economy" approach to climate change, prioritizing four economy-wide strategic interventions (see Fig 1):

1. Embed long-term climate priorities in countries' macroeconomic frameworks;
2. Embed long-term climate planning in national budgets and expenditure frameworks;
3. Embed long-term climate objectives in financial sector regulations and incentives; and
4. Embed long-term climate objectives in systems planning.

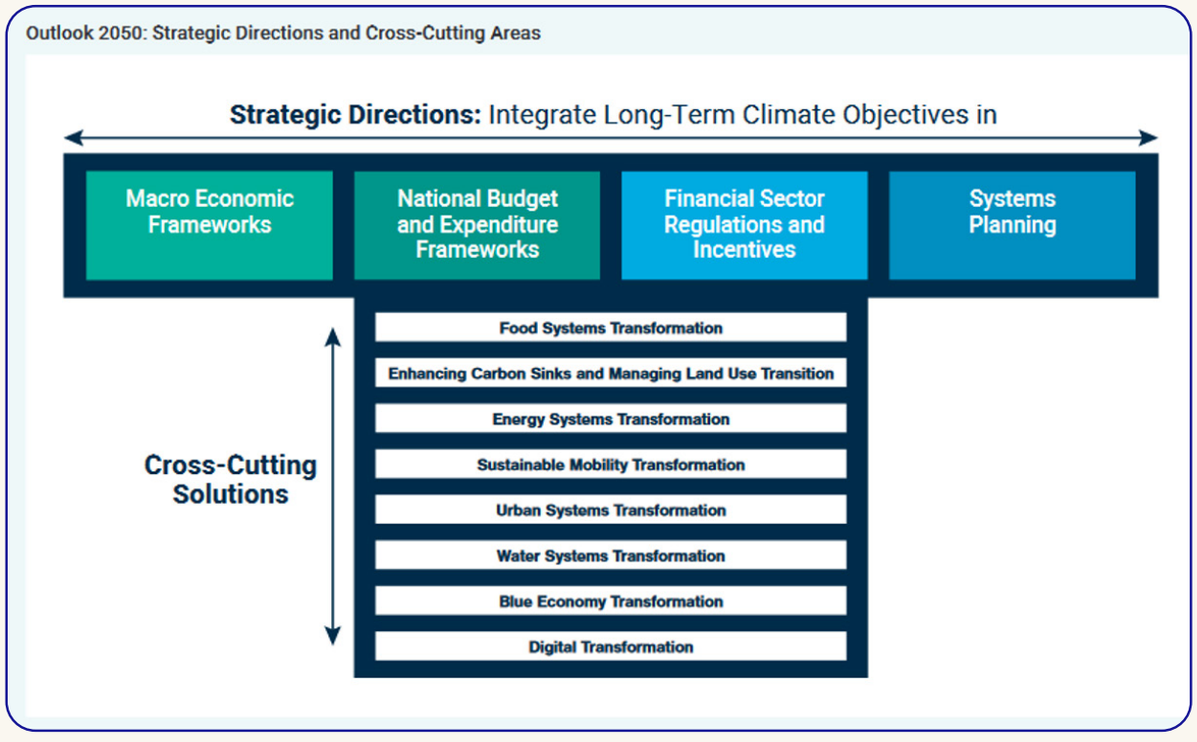


Figure 3: The 'whole-economy', integrated cross-sectoral framework (World Bank 2020).

II. World Bank 2020: World Bank Outlook 2050 Strategic Directions Note: Supporting Countries to Meet Long-Term Goals of Decarbonization: https://openknowledge.worldbank.org/handle/10986/33958

The guidance further identifies key cross-sectoral opportunities and makes recommendations across eight sectors that are essential for achieving the SDGs:

1. transforming food systems;
2. protecting land-based ecosystems and carbon sinks;
3. transforming energy systems;
4. transforming mobility;
5. building low-carbon, more resilient urban areas;
6. transforming water systems;
7. transforming the ocean economy; and
8. digital transformation.

Finally, the Outlook 2050 finds that investing in cross-sectoral opportunities, including as part of stimulus packages, can aid in a sustainable recovery from the COVID-19 pandemic.

In summary, the Strategy seeks to convey the necessity for urgent action on climate change, in both mitigation and adaptation. It seeks to integrate climate change in a 'whole economy' approach and to 'climate-proof' the economy; and to prioritise nature-based solutions (NbS), encompassing a 're-greening' of the sub-continent, in accordance with the UN Decade of Restoration 2021-2030, as a cost-effective, practical and necessarily decentralised approach that enables the participation by all stakeholders at all levels.

02
OVERVIEW OF CLIMATE CONDITIONS AND CLIMATE CHANGE IMPACTS IN SADC

Climate change is one of the most pressing issues currently facing SADC MS, and it will continue to be a matter of serious concern in the coming decades. While certain parts of the world are likely to face more severe impacts than others, all nations will be affected. Countries need to balance mitigation and adaptation approaches to tackle climate change. Even though mitigation may serve as an instrumental technique for highly developed countries, most SADC countries (apart from South Africa) have made limited contributions to cumulative global GHG emissions. Furthermore, the SADC region, like other African regions, will have to focus on evidence-based, iteratively updated adaptation strategies for the future, while focusing on multiple benefits.

2.1 Current climate conditions

A number of studies show that the SADC region has already experienced an increasing number of hot days and a decrease in the number of severely cold days. Nhamo et al. (2019) and Davis and Vincent (2017), for example, show a higher inter-annual temperature variation, with prolonged rainy spells and more severe droughts in a range of countries. These climate conditions will have major implications for SADC's future water, energy, and food security. Schreiner and Baleta (2015) state that more than 61 per cent of the total population of SADC is estimated to reside in rural areas, primarily dependent on rainfed agriculture and lacking access to clean water and energy.

In terms of climate change, a number of areas and communities in SADC are already highly vulnerable. SADC is subject to droughts and floods, and much of the land surface is arid or semi-arid. This already strained environment is exacerbated by even small changes in precipitation or temperature levels. Countries such as South Africa and Zimbabwe are, in certain cases, cultivating crops in areas that are only marginally climate-suitable, and have restricted water supplies.

It is challenging to predict how exactly climate change will evolve in the next decade and in the longer term - however, climate modelling can equip decisions makers with reliable projections to determine anticipated climate changes and impacts. Recent studies indicate that the future changes in climatic conditions are likely to be higher than those already detected due to the lag effect of human activities contributing to GHG levels in the atmosphere, and their onward effect on radiative forcing.

Building on the IPCC's most recent global assessment, the Fifth Assessment Report (AR5) published in 2014, and leading up to the publication of the Sixth Assessment Report (AR6) in 2022, the IPCC has published a number of interim 'special reports' on certain aspects of climate change. Arguably the most important of these is the Special Report on Global Warming of 1.5ºC which unpacks the important differences in terms of dramatically increasing risks and impacts of not restricting global temperature rise to 1.5 ºC as opposed to 2 ºC, as per the Paris Agreement aspirational targets.

Already, the 2019 Global Climate Report from the NOAA National Centre for Environmental Information (NOAA 2019) shows that for much of 2019 temperatures in most of the world's land and sea regions were warmer than average. The IPCC's projections highlight that the western part of Southern Africa is likely to become drier, with rising occurrence of drought and number of heatwaves. The Limpopo River Basin, the Zambezi drainage in Zambia and the Western Cape regions of South Africa are projected to have a diminishing amount of rainfall at 1.5 degrees. At 2 degrees, however, there are also predictions (using some models) for an increase in the number of dry days in Namibia, Botswana, northern Zimbabwe, and the south of Zambia by about 20%. This would contribute to a 5 -10% decrease in the Zambezi drainage level. Further, if the world average temperature exceeds 2 degrees with global warming, the frequency and severity of extreme temperatures in all sub-Saharan regions will dramatically increase.

2.2 Projected impacts of climate change

As indicated earlier, in certain parts of the SADC region there are already signs of change, including a later start to dry and wet seasons (Archer et al., 2017). More intense precipitation events are projected, as well as an increase in frequency. In countries such as Botswana, Namibia, Lesotho, and Zimbabwe, climate change is causing surface temperatures to rise every year. By the end of the century there will be an increase of surface temperatures by 3 degrees in the region (Miles and Liffey, 2018). Annually there has been a steady increase in surface temperatures, and they are expected to further increase by between 5% and 18%, particularly in the southern part of the region.

Rainfall is also likely to become more unpredictable. Droughts, floods, and storms are likely to intensify, impacting particularly the southern part of the SADC region. For some high-risk regions, a 2 degree rise in temperatures will contribute to a 20-30 per cent decrease in the water supply. Moreover, an increase in temperature can also speed up eutrophication. For example, recycling of phosphate in hot climate regions has higher eutrophication levels than that of cold areas, and this indicates that the processes of phosphorus release from lake sediments and mineralization are strongly dependent upon temperature.

Global warming has and will continue to severely impact all countries in SADC. The extent of these impacts depends both on SADC's collective response and on the specifics – i.e. the region and the people living in them. Climate change's direct impact is disruptive, and it further aggravates social disparities and tensions. For example, higher temperatures and drought will result in less stable supplies of maize, wheat, and other staple crops in certain areas, leading to price spikes and food shortages. The most immediately affected people in SADC are the poor, women, and the youth – effectively, those already vulnerable. Climate change worsens inequalities and contributes to pressure on natural resources. The changing climate will further increase the prevalence and transmission of diseases carried by water (eg. cholera) and zoonotic vectors such as mosquitoes (eg. malaria). Such conditions pose a higher risk to people already living with co-morbidities such as malnutrition and HIV/AIDS.

03
CLIMATE CHANGE ADAPTATION – SECTORAL APPROACH

Adaptation remains the major priority for the SADC region due to the current and potential climate change impacts and associated societal exposure and vulnerability at different scales, as well as the region's relatively minor contributions to global GHG emissions. All sectors that are critical for sustainable development and maintenance of livelihoods are sensitive to climate variability and climate change. SADC member countries recognise that priority adaptation responses should target these critical sectors and seek multiple, reinforcing benefits for resilience. Sectors that are most vulnerable to climate change in the SADC region include water, biodiversity, health, tourism, agriculture, fisheries, oceans, mining, extractive industries and human settlements. SADC's vulnerability is compounded by its low adaptive capacity and the interaction of social, economic, biophysical and environmental factors with climate change, such as the high rates of dependence on natural resources and rain-fed agriculture, poor infrastructure, socio-

economic and gender inequality, among others. This section analyses the context of climate change on the most vulnerable sectors and outlines regional strategic objectives to promote resilience.

Healthy and viable ecosystems contribute to climate adaptation responses and resilience. Ecosystem-based adaptation (EbA) is the use of biodiversity and ecosystem services to help communities adapt to the adverse effects of climate change. EbA involves governing and managing ecosystems to enhance their resilience to climatic shocks and stresses – maintaining and, where possible, restoring and enhancing the quality and quantity of ecosystem services they provide to society – and in so doing supporting human communities to adapt to current and future climate risks. Nature-based Solutions (NbS) is a broader concept than EbA as it includes restoring and enhancing nature's health and resilience, and thereby improving the provision of ecosystem services for society.[III]

National adaptation priorities, as identified in NAPAs and NDCs, incorporate a range of strategic interventions including sustainable resource management; ecosystem restoration and afforestation; the conservation of marine, coastal and terrestrial ecosystems; the promotion of agroforestry techniques, non-timber livelihoods, alternative energy sources and climate-resilient tree varieties; and capacity-building and the strengthening of institutional frameworks. Within the development context of SADC, it is important that adaptation policies, programmes and projects simultaneously achieve synergies with socio-economic benefits, climate change adaptation and biodiversity and ecosystem conservation.

3.1 Sector Adaptation Strategies

3.1.1 Agriculture

Agriculture is a major social and economic sector in the SADC region, contributing up to 17% of the Region's GDP, approximately 13% of its overall export earnings and about 66% to the value of intra-regional trade (SADC RAP, 2011). Agriculture provides a livelihood, including subsistence, employment, income, and wealth creation for nearly 70% of the region's population. SADC Heads of State have recognised the importance of agriculture by endorsing the Comprehensive African Agricultural Development Programme (CAADP) (AU/ NEPAD, 2003). Furthermore, the SADC RISDP, the Regional Agricultural Policy (RAP) and the Regional Agricultural Investment Plan (RAIP) and the Regional Food and Nutrition Security Strategy speak to the need for accelerated agricultural growth for the sector to contribute to broader economic growth and poverty reduction in the region.

However, agriculture is highly vulnerable to climate change in general, but in particular in many parts of SADC where it is rain-fed, with low rates of mechanisation and input usage, and varieties/ breeds that are not well suited to their agroecosystem. Climate change perpetuates these challenges with increasing seasonal rainfall variability, the increased occurrence and severity of extreme events such as droughts and floods, delayed start of rains and prolonged mid-season dry spells, increasing mean annual temperatures and sea-level rise, which all have a number of direct impacts on crop and livestock production.

III. NbS can be defined as actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges and simultaneously provide human well-being and biodiversity benefits.

Productivity in dairy, livestock calving rates and beef production are already being compromised, with an increase in the severity and distribution of diseases and parasites impacting animal health. Crop production is heavily compromised by changes in the timing and duration of precipitation events, daily temperatures, and levels of soil moisture.

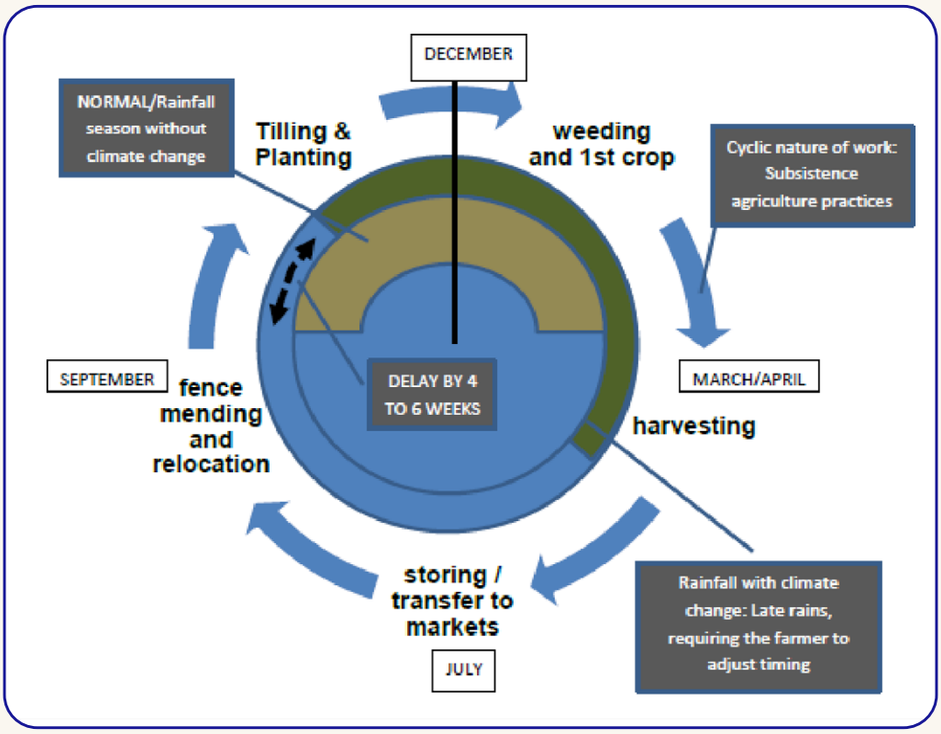


Figure 4: Climate change impact on subsistence and commercial farming expressed as the change in length and timing of the cropping season

Beyond agricultural production, climate change also affects other aspects of the agricultural value chain, including processors, transporters and dealers who suffer from extreme climate events and long-term climate change effects. As such, strategic planning should aim to enable and support small-scale farmers and a range of other players in the agriculture commodities value chain to respond effectively to the uncertainty of rainfall and temperature patterns. This can be done through the dissemination, adaptation and adoption of climate-smart agricultural technologies and management practices that support resilience of production systems, adaptation, mitigation, and food security, as well as promoting conservation agriculture techniques such as minimal or no-till methods, intercropping and cover cropping. These techniques conserve soil moisture, encourage soil health and reduce dependence on inorganic fertilisers and herbicides. It is also important to ensure that no maladaptation takes place through inappropriate or unsustainable water storage, provision and use, or locking farmers into water systems that are not sustainable.

It must be noted that the region already faces severe food insecurity. In 2019, an estimated 41.2 million people (or approximately 12% of the population) in the region were food insecure. Analysis of the nutrition security situation in SADC MS shows high rates of malnutrition (Van Huis et al, 2013). Stunting rates for children under five years of age were reported to be over 30% for 10 of the 16 SADC countries, with four countries registering over 40% stunting rates, translating to a total of 20 million children (SADC RVAC, 2018). The proportion of under-five children not receiving minimum acceptable diets is already high, ranging from between 8% and 38%. It is thus imperative to implement urgently adaptation

strategies to increase the production of nutritious food in the region through sustainable intensification and diversification.

To address the above challenges, the following agriculture adaptation strategies are recommended:

1. Promote adaptation through climate-smart agricultural technologies and improved cropping and livestock systems based on appropriate options suited to local contexts.
2. Build farmer and community capacity and opportunities for agricultural adaptation to climate change.
3. Develop a regional framework for agriculture research and development related to climate adaptation, including climate vulnerability assessments.

3.1.2 Water

Water is recognised as an important driver of socio-economic development within the SADC region as indicated in the SADC Water Policy and Strategy (2006). Optimal water management particularly supports the SADC development objectives on poverty reduction, food security, energy security and industrial development. Various challenges in integrated water resources management exist in the region including, highly variable rainfall and uneven water distribution across the region, high water demands resulting in spatial and temporary scarcities, and challenges related to national and regional water governance and financing of water management.

SADC economies and local communities are vulnerable to chronic water shortages as well as compromised water quality and thus the capacity to reduce poverty and grow economies is and will be severely reduced by climate change, which will magnify these challenges as water is the medium through which most climate related disasters and extreme weather events occur, including droughts, floods and

tropical cyclones; these weather events are increasing in frequency and intensity due to climate change. Water availability is also reduced through rising temperatures. These changes adversely affect human livelihood systems, particularly both rain-fed and irrigated agriculture, and water supply for energy, health, sanitation and human settlements.

In light of the above, climate change adaptation in the water sector is key to unlocking economic and social sustainability, particularly in water-dependent sectors such as agriculture, industry, energy, tourism, conservation and health. Fortunately, the existing regional bodies responsible for water management in shared river basins offer an opportunity for regional collaboration and integration in adaptation in the water sector. Nature-based solutions (NbS) for water security can greatly assist to enhance and sustain freshwater.

To address the above challenges, the following water sector strategies are recommended:

1. Promote integrated water resource management in planning and investment for climate change adaptation.
2. Promote sustainable management of water resources in the region, including water conservation and water use efficiency, focusing on both quantity (storage and efficiency) and quality aspects.
3. Promote institutional strengthening and capacity for improved disaster preparedness in the water sector.

3.1.3 Biodiversity

The SADC region has a biodiversity heritage of global importance. The SADC Regional Biodiversity Strategy (2007), the SADC Regional Forestry Strategy (2020-2030), the Biodiversity Action Plan (2010), the Transfrontier Conservation Community Programme (2013), all describe how more than 40% of the region's species are endemic. Biodiversity is of fundamental importance to the functioning of all natural and human-engineered ecosystems, and by extension to the ecosystem services that nature provides to human society. Biological resources such as plant and animal products, timber, and wildlife tourism account for a significant proportion of the SADC region's GDP and are a source of livelihood for the majority of its citizens. In 2018, tourism (predominantly associated with natural spaces and wildlife) accounted for 8.6% of regional GDP, creating over 6 million jobs (6.1% of total employment) with potential for expansion (WTTC, 2018).

The 2019 IPBES Global Assessment estimates that globally ecosystem deterioration is increasing at an alarming rate, and the rate of species loss is reaching critical levels. According to the regional Biodiversity Policy more than 40 per cent of the endemic species of the region are endangered. For example, in Madagascar, Seychelles and Mauritius, numbers of endangered species in proportion to the country's area is significant; the central African lakes contain significant numbers of endemic freshwater fauna, and Miombo forests are the centre of diversity of birds and butterflies in Zambia and Tanzania.

Over centuries, the people of Southern Africa have sustainably used their biological resources for the benefit of their own and future generations. Unfortunately, the capacity of nature to maintain this biological productivity is rapidly diminishing due to over-use in the form of habitat loss and degradation, and over-use resulting from unsustainable development, driven by economic and social factors. Climate change coupled with poor enforcement of regulations pertaining to pollution, invasive alien species, overharvesting of natural resources and a lack of recognition of indigenous knowledge and property rights exacerbates the situation.

Increased temperatures, increasingly erratic precipitation and extended dry periods are already affecting biodiversity, including animal die

offs (not species currently), species migrations, coral bleaching, reduced water availability, reduced productivity and reproduction, all of which increase pressure on the remaining biodiversity and ecosystem ability to continue providing the goods and services required to sustain human wellbeing. While some species may respond positively, at least in the short term, to changed conditions (for example Commiphora which is seen to produce more resin in drought periods), most are projected to be impacted by climate change negatively.

Adaptation in the biodiversity sector is key in providing rural communities with the necessary natural resources essential for their livelihoods, both to sustain ecosystems productivity and thus ecosystem goods and services, as well as biodiversity-associated sectors such as tourism. However, to ensure that local communities can continue to benefit from the sustainable use of natural resources, those resources must also be assisted to adapt. Greater efforts towards adaptation have already been realised in the implementation of other conventions which SADC MS are parties to. Synergies in their implementation offer better opportunities to realize adaptation benefits for communities. These include amongst others, (the post-2020) CBD framework; the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and the Convention on Migratory Species (CMS). SADC MS have also contributed to the development of the CBD Protocol on Access and Benefit Sharing (ABS), which seeks to give local communities and national economies a share in the benefits derived from the use of biodiversity originating from their localities, and most are reviewing their National Biodiversity Strategies and Action Plans in line with the post-Aichi Targets.

It is important to acknowledge the findings of the 2018 IPBES Africa Assessment and link these findings to the next iteration of regional biodiversity targets. Whilst biodiversity should be addressed at the SADC regional level, it is also important to scale this down to the species level as well. Most MS in the region are revising their NDCs and National Adaptation Plans, and biodiversity and adaptation are necessarily needed to be included in these.

To address the above challenges, the following biodiversity sector strategies are recommended:

Focus biodiversity strategies, policies and legal frameworks more holistically on a matrix of interdependent, connected landscapes and ecosystems, larger landscape models that combine protected areas (PA) and other land-uses outside of PAs, including urban areas, most especially through TFCAs, whilst also seeking to increase the efficiency of PA management.

1. Reduce the fragmentation of protected areas and create integrated and connected land and water systems, such as Transfrontier Conservation Areas, and surrounding land-uses, that strengthen the mitigation and adaptation potential of natural systems.
2. Implement incentive instruments that support mitigation actions and improve the management and conservation of natural resources by a variety of stakeholders.
3. Promote sustainable management practices and approaches in all sectors in order to reduce habitat degradation, deforestation and the over-exploitation of natural resources.

3.1.4 Blue Economy

In recent years there has been an increasing focus at global, regional and national levels in developing sustainable blue economies, as expressed in SDG14 to "conserve and sustainably use the oceans, seas and marine resources for sustainable development". The African Union has recently developed a continental Blue Economy Strategy and many nations in Africa have embarked on comprehensive processes to prioritise and realise their blue economies. With this renewed interest in the potential of marine and freshwater systems to contribute to livelihoods, job creation and food security through both established (fisheries, tourism, shipping, offshore oil and gas) and emerging (coastal and offshore renewable energy, seabed mining, bioprospecting) sectors, there is also a growing recognition that marine and freshwater ecosystems are under threat from pollution (including plastics), overharvesting of aquatic resources, illegal and unregulated activities, habitat degradation and destruction through activities such as bottom-trawling and other factors. In addition, climate change has diverse and significant negative impacts on aquatic systems.

Climate change is and will impact ocean ecosystems through warming, sea level rise and potential changes to the ocean's major currents. In addition, ocean acidification is a direct result of ocean carbon capture (from increasing GHG emissions). These changes have diverse impacts on marine ecosystems and the communities that depend on them. For example, already evidence exists that as waters warm marine species are migrating from their natural ranges to cooler polar waters. Ocean acidification affects the calcification of molluscs and various other marine life forms, as well as the reproductive health of numerous marine species. Coral bleaching due to warming waters, acidification and increasing susceptibility to diseases is already severely impacting coral reefs. Coastal communities are increasingly being impacted by rising numbers of more intense tropical storms, flooding, coastal erosion, saltwater intrusion and related impacts, for example as witnessed in Mozambique in 2019 with two cyclones hitting landfall in one season for the first time with devastating consequences. Importantly, climate change is and will also have significant negative impacts on the region's already stressed freshwater ecosystems, considered an integral part of the African blue economy.

In considering the response to climate change impacts on marine and freshwater systems in SADC, this strategy focuses mainly on the fisheries sector, given its centrality in supporting livelihoods and contributing to food security in the region. Components of the regional adaptation response related to the blue economy are covered elsewhere in relevant sections (e.g. integrated water management, coastal zone governance, marine disaster risk reduction within the water sector and marine protected areas within the biodiversity sector).

Fisheries make a significant contribution to food security in the SADC region. Fisheries in the SADC region are diverse, with production of about 3 million tonnes of fish harvested wild from the region's oceans, lakes, reservoirs and rivers every year, and an additional 100 000 tonnes produced in the aquaculture sector.

The SADC Protocol on Fisheries (2006) and its implementation strategy prioritises aquaculture, management of shared fisheries resources and combating illegal, unregulated and unreported (IUU) fishing. These activities are the building blocks in supporting activities related to climate change adaptation in the sector. It is important to note that sustainable, well managed fisheries are inherently more resilient to climate change, and therefore even activities such as improved IUU monitoring and control, though not directly related to climate change, contribute to enhanced resilience of fisheries and aquatic ecosystems more broadly. Globally, 540 million

people depend on fisheries and aquaculture as a source of protein and income; in SADC, about 100 million people consume fish as a regular part of their diet. Climate change will negatively affect fisheries, freshwater and marine habitats, particularly their composition and productivity, thus compounding the challenges related to food and nutrition security of the region. Fishers, fish farmers and coastal inhabitants will bear the full force of these impacts through destabilised livelihoods, changes in the availability and quality of fish for food, and rising risks to their health, safety and homes. Many fisheries-dependent communities already live a precarious and vulnerable existence because of poverty, lack of social services and essential infrastructure. The fragility of these communities is further undermined by overexploited fishery resources and degraded ecosystems. Climate change impacts on other sectors such as agriculture and tourism also impacts fishing communities, who often depend on these sectors as part of diversified livelihood strategies. Despite these challenges, improved management of the fisheries sector offers opportunities for climate change adaptation for local communities as well as to contribute significantly to the growth of the regional economy.

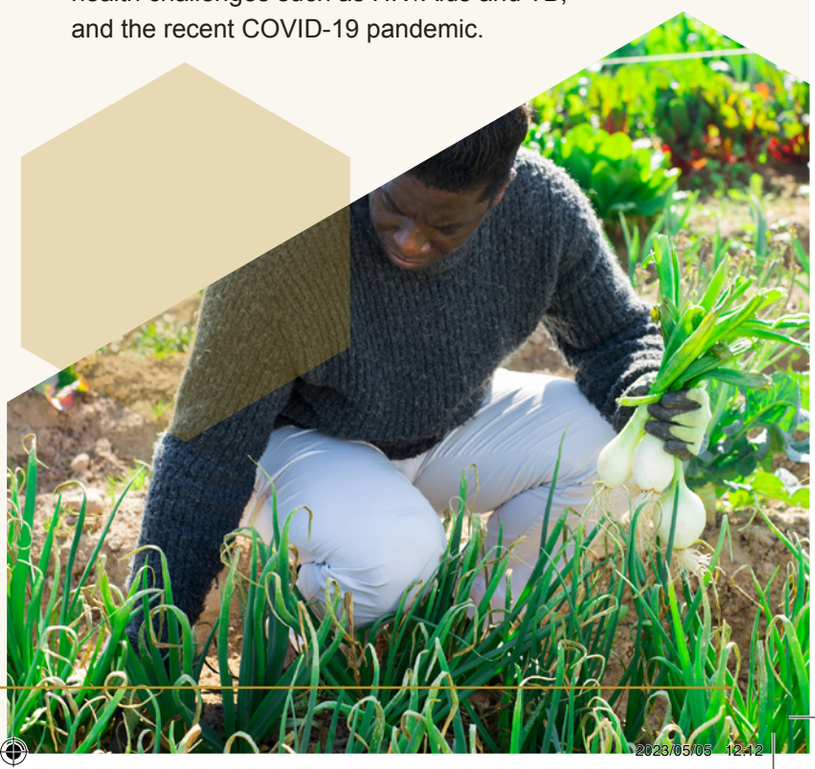
To address the above challenges, the following blue economy sector strategies are recommended:

1. Promote the development of sustainable, inclusive, equitable and climate-resilient blue economies at the national and regional levels.
2. Promote sustainable production and utilization of aquatic (marine, freshwater and aquaculture) resources.

3.1.5 Human Health

Human and social development is accorded high priority by SADC MS. The Protocol on Health (1999) recognizes that a healthy population is a prerequisite for sustainable human development and increased productivity in a country. SADC recognizes that close co-operation in health is essential for the effective control of communicable and non-communicable diseases within the region.

Climate change affects the social and environmental determinants of health – clean air, safe drinking water, sufficient food and secure shelter. Climate change will increase deaths that result from food insecurity, malnutrition, vector-borne diseases such as malaria, poor sanitation and diarrhoea, extreme weather events and heat stress. Extreme high temperatures contribute directly to deaths from cardiovascular and respiratory disease, particularly among elderly people, and high temperatures raise the levels of ozone and other pollutants in the air that exacerbate cardiovascular and respiratory diseases. Pollen and other aeroallergen levels are also higher in extreme heat. These can trigger asthma, which affects around 300 million people worldwide. These climate-induced health challenges are in addition to the existing disease challenges experienced by the region which will be exacerbated by climate change. This includes health challenges such as HIV/Aids and TB, and the recent COVID-19 pandemic.



Additionally, climate-related diseases triggered by heat waves and floods have become more prevalent and biomes are shifting, reducing ecosystem ability to support traditional rural livelihoods and dependent populations. As such, environmentally induced migration (due to insecurity arising from crop failures, stock deaths, disease, water stress) will increase, with subsequent impacts on resource allocation, settlements and health, and overall security.

The World Health Organization (WHO) defines 'health' as a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity. Climate change will also have psychological impacts on families that are ripped apart, with livelihoods and lives lost. This Strategy seeks to enable MS to equip communities with tools that will assist them to deal with the additional stressors, especially those already living on the edge of survival.

Climate change adaptation activities will need to build upon existing work in the health sector. The SADC Health Policy plans to raise the regional standard of health for all citizens to an acceptable level by promoting, coordinating, and supporting efforts of MS to improve access to high-impact health interventions.

To address the above challenges, the following human health sector adaptation strategies are recommended:

1. Strengthen regional and national research and health care responses to climate change related health impacts.
2. Building resilient communities empowered to take care of basic health care needs through empowerment programmes.

3.1.6 Settlements and Infrastructure

SSADC MS include mainland and small island states with a mix of low- and middle-income economies. Regional infrastructure development facilitates a larger market and greater economic opportunities, and is critical for promoting and sustaining regional economic development, trade and investment, and can contribute to poverty reduction and improved social conditions. Infrastructure fundamental to cooperation in the SADC region includes regional transport, energy, water, and meteorology and communications systems, which are. At the local level, urban environments comprising buildings, including business, residential, educational (schools, universities, training colleges), hospitals and clinics, water and sewerage infrastructure, railway stations, airports and ports and industrial installations constitute human settlements, which are connected and enabled by transport infrastructure such as roads and railways. However, all infrastructure is vulnerable to extreme weather events, which suggests greatly enhanced adaptive planning for regional infrastructure development is required urgently. The threats to infrastructure include physical damage from extreme events such as cyclones, floods or heat waves. Vulnerabilities are especially profound where infrastructures are subject to multiple stresses beyond climate change.

The Regional Infrastructure Development Master Plan (2012) guides development in key infrastructure such as road, rail and ports, and acts as a framework for planning and cooperation with development partners and the private sector. Infrastructure is also a key component of the Regional Indicative Strategic Development Plan. Infrastructure is the primary medium through which human settlements are identified and connected.

Adapting infrastructure to a changing climate needs to be considered in two ways. First,

when constructing new infrastructure, climate resilience can be improved by locating, designing and operating an asset with the current and future climate in mind. This is particularly important in the case of large infrastructure which usually has a lifespan of at least 20 years and investment decisions therefore influence future generations' wellbeing. Second, existing infrastructure can be made more climate-resilient by retrofitting and/or ensuring that maintenance regimes incorporate resilience to the impacts of climate change over an asset's lifetime.

Adapting infrastructure design to climate change will be essential in maintaining public service infrastructure such as buildings, water and wastewater reticulation systems, roads and rail networks, communication and energy related infrastructure. Climate-smart infrastructure supports inclusive and sustainable growth, expands markets, creates job opportunities, promotes competition, and contributes to a cleaner future.

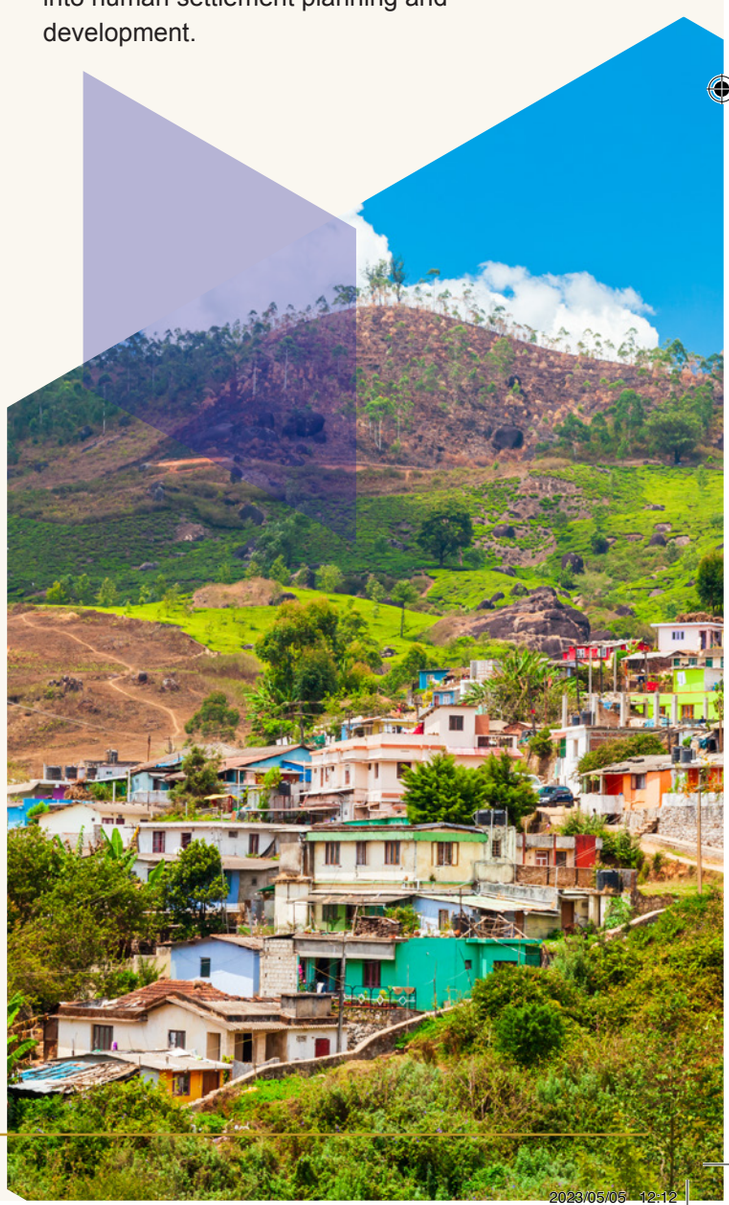
Climate change impacts on Southern Africa human settlements manifest in the form of sea-level rise, impacts on water resources, extreme weather events, food insecurity, increased health risks, and temperature related stresses and morbidity. The extent of these impacts will variously depend on the localities of settlements. Land-use policies and spatial planning play a central role when developing new infrastructure. Overall, the climate resilience of infrastructure starts with sound spatial planning.

For human settlements to continuously prosper, there is a need for a holistic approach to adaptation that addresses concerns across sectors including transport, water, energy, food and health. SADC must play an important role in urgently aligning policy direction and goals to ensure the uptake of climate resilience in human settlements infrastructure investment policies and by promoting new 'climate-smart' construction standards.

Insurance plays a central role in handling climate risks related to infrastructure and physical assets. It can support adaptive practices by helping to manage climate change risks, providing incentives for climate risk prevention and by disseminating information on climate change risks and risk prevention measures. As a result, enhanced engagement of the insurance sector in policy development in SADC will become increasingly important.

To address the above challenges, the following human settlement and infrastructure sector adaptation strategies are recommended:

1. Promote public and private partnerships for climate-resilient infrastructure development and financing.
2. Integrate green infrastructure solutions into human settlement planning and development.



3.1.7 Disaster Risk Reduction

The SADC region experiences natural and now increasingly climate-induced disaster risks. The increasing frequency, intensity and magnitude of extreme weather events such as droughts, floods, and cyclones, coupled with epidemics, widespread land degradation and loss of biodiversity has forced the regional development lens to focus on disaster risk reduction (DRR). Additionally, the coastal regions and Small Island States face further climate and disaster risk emanating from sea level rise, coastal erosion, storm surges and destruction of coral reefs.

Disaster events lead to crop failure, low agriculture and productivity yields, and basic services disruptions through destroyed infrastructure such as transport systems. The SADC Regional Vulnerability Assessment and Analysis Synthesis Reports (RVAA 2018) indicate escalating food insecurity trends, weakening of social capital and widespread vulnerabilities due to low coping capacities and secondary impacts existing in high chronic malnutrition levels, that averages over 25%, in the region. Reduced rainfall has led to crop failures, water scarcity and reduced energy production especially for those countries dependent on hydroelectricity Conversely, flooding events result in landslides, destruction of infrastructure, disruption of social services and water-borne disease outbreaks. Climate-driven displacement and migration in the region is rising due to widespread risks and coping challenges, particularly, in rural and vulnerable communities. According to the Africa Report on Disaster Risk Reduction 2015-2018, during this period the SADC region experienced loss of lives, development assets and infrastructure while the economic loss increased more than five times, from US$492 Million in 2015/2016 to US$2.5 Billion in 2017/2018[IV].

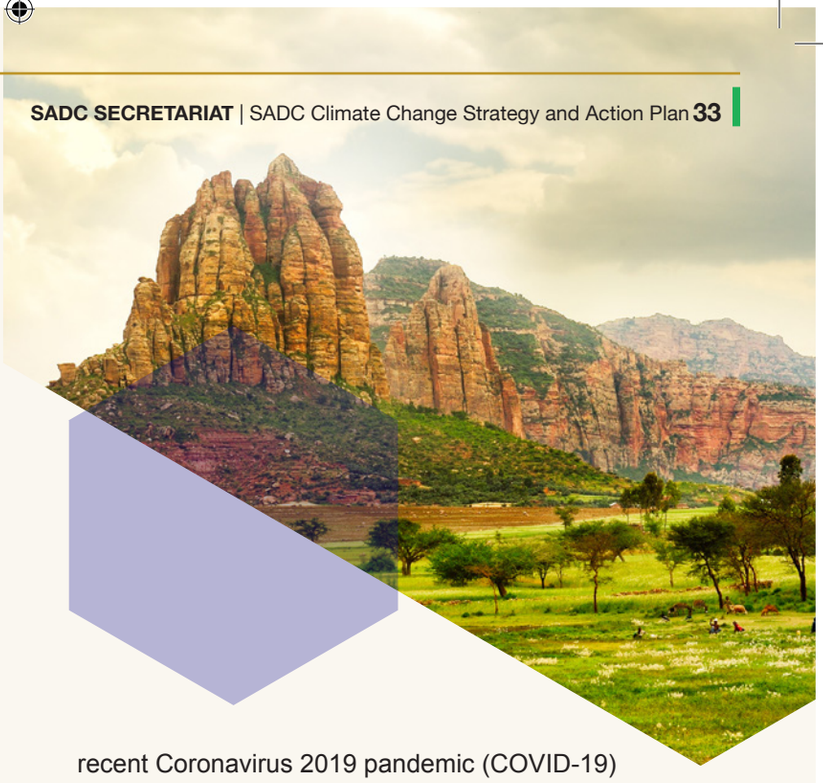
The regional DRR instruments are aligned to the Sendai Framework for Disaster Risk Reduction 2015-2030 (SFDRR) which highlights the need for increased knowledge on disaster risks, calling for the broader integration of socio-economic impacts to the prevention of, response to and recovery from, disasters. The SADC Disaster Preparedness and Response Strategy and Fund 2016-2030 is aligned to the revised Regional Indicative Strategy Development Plan (RISDP) incorporating Sendai Framework calls for the strengthening of regional vigilance and disaster risk response coordination and the necessary capacities and resources for effective reduction in the loss of lives, environmental assets and relapse in the regional economy gains. The SADC Regional Resilience Framework 2020-2030 supports the implementation of programmes with strong linkages between climate change adaptation (CCA) and DRR. The Framework promotes inclusive participation of the region and communities to respond appropriately to the risks.

However, broad regional constraints encompassing limited capacity to translate climate forecasts into locally usable information, the need for structural and institutional mechanisms and capacities to identify and assess climate risks for effective preparedness, response and resilient recovery exist. Low adaptive capacity contributes to low disaster risk investments to facilitate the operationalization of regional and national regulatory frameworks and enforcement.

To address the above challenges, the following disaster risk reduction adaptation strategies are recommended:

1. Improve regional climate risk governance, including planning and risk assessments, for pre- and post-disaster preparedness.
2. Promote the integration of climate change and disaster risk reduction instruments, strategies and operationalisation.

IV. Source: EM-DAT Member States reporting on the Sendai Framework for Disaster Risk Reduction Programme of Action Emergency Events Data, Africa Report on Disaster Risk Reduction 2015-2018, Africa Union 2020.



3.1.8 Tourism

As a growth sector with high potential socioeconomic impacts, tourism is of high interest to SADC. To foster the tourism industry in Southern Africa SADC passed its Protocol on the Development of Tourism in SADC in 1998, later amended in 2009. The Protocol sets out SADC's objective to build on the region's potential as a tourist destination. SADC intends to ensure even distribution of tourism development throughout the region and to create a favourable environment for tourism, thereby using tourism as a vehicle for socioeconomic development and regional integration. The Protocol establishes systems for facilitating travel to Southern Africa, training for industry workers, and marketing of the region as a tourist destination. It includes an institutional framework for implementing the Protocol, specifying committees, units, duties, and procedures relevant to improving tourism in the region.

The SADC Tourism Programme 2020-2030 considers global and continental tourism programmes including the World Tourism Organization (WTO) Agenda for Africa, the African Union's Agenda 2063, as well as several SADC initiatives, frameworks, and institutional developments. Objectives of the Programme include exceeding average global growth levels in tourism receipts and arrivals, broadening the spread of regional tourism receipts and arrivals, and effectively increasing the length of stay and return of travellers within the region, while ultimately fostering an enabling environment for sustainable tourism growth and development through the harmonisation of policies.

In 2018, the sector made an 8.6% contribution to the region's GDP (USD56.3 bn), creating over 6 million jobs (6.1% of total employment) (WTTC, 2018). Tourism achieved this significant impact due to its cross-sectoral, labour-intensive, and 'low barrier to entry' nature. However, the tourism industry is also volatile, facing constant economic, political, environmental and health risks, such as the recent Coronavirus 2019 pandemic (COVID-19) disruptions, whereby there is high uncertainty as to when tourism may regain its former activities.

Volatility of the SADC tourism sector is exacerbated by climate change induced changes in weather patterns, including droughts, extreme weather events experienced in the region's key tourism destinations and affecting regional transportation and accommodation infrastructure. Climate impacts also negatively impact on the region's natural capital which includes wildlife and cultural heritage – key draw cards for tourism to and within the Southern African region. Further, tourism is both a 'vector and a victim of climate change' (UNWTO, 2016). The global tourism industry's transport-related contributions to anthropogenic GHG emissions was pegged at 5% of all man made emissions in 2016 and was expected to increase to 5.3% by 2030 (UNWTO, 2016). At a destination level, indirect emissions stemming from tourism operations (accommodation, activities, and attractions) and key value chain actors such as food and beverage suppliers, are contributing to climate change.

To address the above challenges, the following tourism sector adaptation strategies are recommended:

1. Enhance and promote climate-smart tourism models.
2. Enhance disaster risk reduction and response in vulnerable tourism destinations.
3. Promote tourism as a viable, climate-resilient livelihoods alternative.

3.1.9 Mining and other extractive industries

Mining is a sector of strategic importance in Southern Africa. A significant share of the world's vanadium, platinum, gold, cobalt, diamonds and coal originate in the region. These minerals contribute greatly to several SADC MS's gross national product and employment, with many states in the region relying heavily on mineral exports as a source of foreign exchange earnings. However, the sector is both highly vulnerable to extreme weather events as well as increasingly under pressure to reduce GHG emissions, especially the fossil fuel sector.

The SADC Protocol on Mining (1997) forms the basis for SADC's work programme on mining. This protocol aims to facilitate development of the region's mineral resources through international collaboration, in turn improving the living standards of the people engaged in the mining sector. It is noteworthy, however, that the Protocol does not address climate impacts on the mining sector. Mining governance in the region is also informed by the Africa Mining Vision (2009), a continental framework that aims to promote the 'transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socioeconomic development'.

A changing climate and its impacts represent a physical risk to mining operations and infrastructure, as well as the people and environments attached to those operations. The physical risks to infrastructure arise from flood and storm damage. Associated risks include supply chain risks arising from disruption to transport networks and increased competition for climate-sensitive resources such as water and energy.

Investors are starting to compel mining companies to accelerate public disclosure and management of risks associated with climate change on production processes, health and safety, operations, maintenance, water and energy, as well as social critique of GHG intensity. y Mainstreaming of climate change issues in mining operations is a social, environmental and economic necessity. This is also important in the context of technology and mineral demand shifts related to the Fourth Industrial Revolution and the green economy. New technologies are emerging that can make mining more resource efficient and safer (for workers, adjacent communities and the environment) as well as extending the commercial viability of mining operations. Yet, the mechanisation associated with these trends has impacts on labour. At the same time, green technologies and global regulatory responses to climate change may increase the demand for certain minerals (for example, rare earth minerals), but may also lead to significantly reduced demand for others, particularly fossil fuels such as coal, potentially leading to these resources becoming 'stranded assets'. It is crucial that the region responds strategically to these shifts.

To address the above challenges, the following mining and other extractive industries sector adaptation strategies are recommended:

1. Integrate climate risk management in the mining industry.

04
CLIMATE CHANGE MITIGATION – SECTORAL APPROACH

SADC MS, cognizant of the principle of common but differentiated responsibilities and respective capabilities under the UNFCCC and Paris Agreement, seek to undertake mitigation and adaptation actions that contribute to the achievement of the ultimate objective of these instruments, that is, to stabilize GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system and to limit temperature increases to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees. SADC MS's, therefore, support the duty to peak emissions as soon as possible, taking into consideration the needs of developing countries, with a view to achieving carbon neutrality by 2050.

The SADC Region recognises that actions to mitigate climate change should be carried out in such a manner that they promote sustainable regional economic growth, ensure environmental integrity and foster social equity, as set out by the Regional Infrastructure Development Master Plan (2012-2027). Various policy instruments to encourage GHG mitigation are already in place within the region. These include the Protocol on Environmental Management for Sustainable Development, the Protocol on Forestry, the Regional Green Economy Strategy and Action Plan for Sustainable Development, among others.

The key sectors in mitigation in the region comprise energy, land use, land use change and forestry (LULUCF), agriculture, industrial processes, mining, transport, waste and human settlements. By far the bulk of these emissions are from fossil fuels use in the energy sector.

In terms of overall global GHG emissions SADC contributes around 2 – 3% of the total (UNFCCC 2006; USAID 2011)). Only South Africa is a large contributor to GHG emissions where most of the emissions come from coal-based electricity generation. SADC MS specific emissions are illustrated in Table 2 below. Despite the region's relatively low per capita levels of GHG emissions, the growing risk of catastrophic global climate change means that all countries must move away from high-emission models of economic growth. Therefore, while the region works to overcome a well-documented range of development challenges, it must be part of a wider movement to develop globally in a manner that does not lead to large-scale increases in GHG emissions. There are opportunities for SADC MS to facilitate the development of technologies and adopt practices to avoid lock-in to resource- and emissions-intensive economies, and to navigate the difficult trade-offs necessary to achieve sustainable economic development in a carbon-constrained world. In fact, the transition away from the dependence on fossil fuels can provide 'win-win' solutions - reducing GHG emissions, avoiding lock-in to high carbon development paths and supporting inclusive economic growth. These transitions

include generating electricity from renewable sources and implementing higher density multi-use urban plans, such as mass transportation systems; reducing emissions from construction materials, methods and building operations; reducing GHG emissions from livestock and waste; improving the energy efficiency of manufacturing and industrial processes; while reducing GHG emissions in the transport sector. Also, a move towards a circular economy model is fundamental to close the gap between the production and the natural ecosystems' cycles, designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

In order to avoid competing policy objectives and to ensure a just transition, these low-carbon shifts will have to be supported through cross-sector collaboration on a national level, with the inclusion of non-state actors. International support in the form of finance, technology transfer, and frameworks to promote low-carbon trade and productivity will also be critical. Developing the necessary policies to transform infrastructure, natural and human resources in the near term, will play a large role in shaping the region's growth going forward.

4.1 Sector Mitigation Strategies

4.1.1 Energy

Recognizing that all Member States need to grow their economies, future energy demand and consumption will increase. There is, however, the possibility for achieving greater emission reduction through investments in renewable energy, energy conservation and energy efficiency. This makes the energy sector an important target for mitigation response measures.

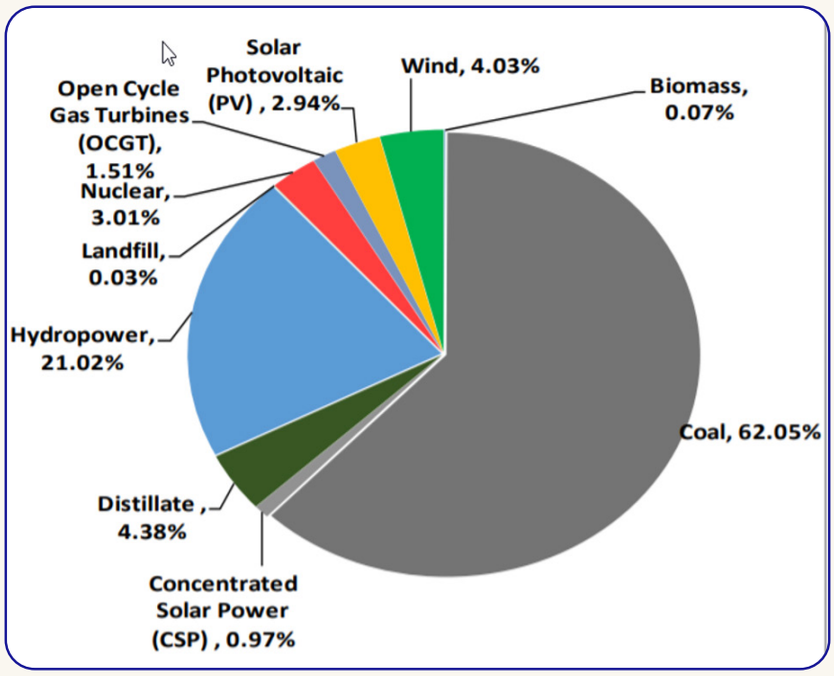


Figure 5: SADC Energy Mix (SAPP, 2018)

The SADC energy sector comprises the following subsectors: electricity, petroleum and gas, coal, wood and charcoal, nuclear energy, renewable energy and energy efficiency. According to the SAPP (2018), 62% of power generation in Southern Africa is from coal and only 32% of rural population in the region have access to electricity. As such the SADC Regional Energy Access and Strategic Action Plan (2010-2020) was adopted to provide a vision and direction to move Member States towards universal energy access, with a midway goal to halve the number of people without access to modern energy resources by the year 2020. While this has not yet been achieved, attempts are still being made to promote energy access throughout the region.

Energy development in SADC is guided, among others, by the Protocol on Energy (1996); the Energy Sector Plan (2012); and the Renewable Energy and Energy Efficiency Strategy and Action Plan (REEESP) (2016-2030). The emphasis across these instruments is largely on harmonisation of national and regional policies and regulatory frameworks; cooperation in energy development and trading through the establishment of the necessary infrastructure; exploitation of the abundant renewable energy resources in the region, and to coordinate planning and governance of the sector. A number of countries in the region are developing and implementing mitigation pledges within their national green economy and climate change policies, strategies and action plans. This includes their National Communications to the UNFCCC, as well as their NDCs.

The SADC Industrialization Strategy and Roadmap (2015-2063) identifies energy as a major barrier as well as a key enabler for industrial competitiveness of the Region. One of the cost-effective measures to overcome these barriers is for industries to utilize energy efficiently and adoption of renewable energy. The focus will, therefore, be on the promotion and implementation of energy savings and co-benefits of reduced costs of doing business, GHG emissions, job creation and contribution to the industrialization development pillar of the Region. The objective of the energy sector is to ensure the availability of sufficient, integrated low-cost energy services to the SADC Region. The approach is to promote the use of renewable energy sources to contribute to global efforts to reduce carbon emissions. However, given the fact that coal, oil and gas remain important inputs to the production of energy in the region, an appropriate energy mix will be adopted which is characterized by the development of climate smart infrastructure, while retaining a percentage of traditional sources of energy which are driven by current and emerging coal, oil and natural gas reserves.

In 2016 SADC Centre for Renewable Energy and Energy Efficiency was established to oversee the implementation of Renewable Energy and Energy Efficiency Strategy and Action Plan (REEESAP) and contribute towards increased access to modern energy services and improved energy security across the Region through the promotion of market-based uptake of renewable energy and energy efficient technologies and energy services. Hydrogen has potentials in assisting the SADC region towards decarbonization of the energy industry.

To address the above challenges, the following energy sector mitigation strategies are recommended:

1. Promote the development and harmonisation of policies and regulatory frameworks for renewable energy, energy conservation and energy efficiency.
2. Promote the development, expansion and use of renewable energy and cleaner energy technologies, especially wind and solar.
3. Ensure the successful completion of existing renewable energy projects, such as the Great Inga Scheme in the DRC (a priority of Agenda 2063 of the AU).

4.1.2 Agriculture

SADC MS's acknowledge the importance of agriculture to the future growth and prosperity of the Region. The majority of the Region's people live in rural areas mainly as smallholder farmers that rely on agriculture for their jobs and livelihoods. SADC is committed to ensuring the enhanced contribution to agricultural development and food and nutrition security by women, youth and other vulnerable groups, by guaranteeing them effective access to productive resources, services and social/ economic opportunities. In particular, Member States acknowledge that women in agriculture make up more than 50% of the rural population, and play a central role in producing, harvesting, processing, storage and marketing of food. The agriculture sector has deep interconnectedness with almost every other sector of the economy, hence the central role of agricultural development to the growth of both urban and rural economies, including the rural non-farm sector, and the transformation of the largely agrarian population to a more industrialised economy.

The Region recognises that the agricultural sector is one of the main contributors to GHG emissions – mainly from cropping and animal husbandry activities. Although Africa's contribution to global GHG emissions is comparatively small, emissions from the agriculture, forestry and other land use sector are relatively high and continue to increase by 1.6 percent per year. The Region commits to employing crop and livestock technologies and techniques to reduce emissions below a business as usual scenario and to lower emissions intensities and recognises the scope for delivering actions that simultaneously address adaptation and mitigation.

To address the above challenges, the following agriculture sector mitigation strategies are recommended:

1. Promote sustainable, green agricultural practices and technology, such as agroforestry and integrated soil fertility management techniques and sustainable crop and grazing land management practices.
2. Promote low-carbon value chain management and agro processing.
3. Build capacity of farmers and other agricultural stakeholders to measure carbon emissions in the agricultural sector.

4.1.3 Land Use, Land Use Change and Forestry (LULUCF)

The SADC Region is home to almost 394 million hectares of forest and forest-like formations, which is equivalent to 41% of the regions' land area. Globally, the main carbon sinks are the oceans and forests. The region's still largely intact forest resources constitute significant carbon sinks, which play a major role in stabilizing the global climate. However, significant destruction of SADC's forest resources is occurring and deforestation and land degradation are the two major sources of GHG emissions under Land Use, Land use Change and Forestry (LULUCF). Globally, deforestation is the second largest emitter of carbon emissions, after the extraction and consumption of fossil fuels. Of special concern to the Southern African sub-region are GHG emissions from the degradation of forests and conversion of other vegetation types to other land uses.

According to the Food and Agricultural Organization (FAO), the annual deforestation rate in the SADC region amounts up to 0,46% per year (2005-2012 period), resulting in high biomass losses and carbon emissions. Although the extent of forest cover change and the drivers of deforestation vary between different countries, forest cover change is mainly driven by agricultural expansion, energy

production, livestock grazing and logging activities. Wildfires are also a cause of large-scale destruction in many MS.

A reversal of the impacts of deforestation, land disturbance and degradation is required to increase the quantity of, and potential for stored carbon. Higher values of stored carbon are an indicator of healthy ecosystems. The focus for SADC is to maintain, and where possible, increase its capacity for carbon sequestration through ecosystem restoration. Also, the SADC Regional Forest Law Enforcement, Governance and Trade (FLEGT) Programme has been developed as a first attempt to adopt a comprehensive programme to promote forest law enforcement and governance, as well as legal harvesting and trade in forest products in the region.

Research illustrates that places where indigenous people and local communities have legal rights to their land have at least two times lower deforestation rates than similar areas without secure tenure. Local communities have protected forests globally that hold 25% of all above-ground carbon in tropical forests. Yet these communities legally own less than one-fifth of this land (WRI, 2017). Securing the rights of local people in SADC will ensure they can hold onto their land, protect natural resources and better sustain their livelihoods in the face of climate change.

To address the above challenges, the following LULUCF sector mitigation strategies are recommended:

1. Promote sustainable forest management and restoration to enhance carbon sequestration through securing indigenous peoples land rights and land tenure.
2. Promote transboundary community management of forest resources through opportunities and active programmes.
3. Enhance education and public awareness on the importance of forest ecosystems for mitigation and adaptation of climate change (as well as in meeting other sustainable development targets).

4.1.4 Industrial Processes

As recognised in the SADC Industrial Strategy and Roadmap (2015-2063), industrial development is a core component of the SADC regional development and integration agenda. Member States recognise that industrial development is key to the growth, diversification of their economies, development of their productive capacities, job and wealth creation.

The sector is dominated by low technology industries, such as food processing, beverages, textiles, clothing, cement, mining and footwear. On average, the sector contributed 13.9% to the region's GDP in 2012, and this contribution is set to increase as prescribed by the Revised RISDP aspirations. In pursuit of this industrial growth, inevitably there will be significant GHG emissions from the associated industrial processes.

The main GHG emissions from industrial processes in the SADC region include; (1) the use of fossil fuels for energy, either directly by industry for heat and power generation or indirectly in the generation of purchased electricity and steam; (2) non-energy uses of fossil fuels in chemical processing and metal smelting; and (3) non-fossil fuel sources, for example cement and lime manufacture. There are various mitigation options which the region can adopt that focus on optimising industrial processes to be more efficient and low carbon activities.

To address the above challenges, the following industrial processes sector mitigation strategy is recommended:

1. Promote policies and regulatory frameworks that enhance resource use efficiency and cleaner production in industry, in line with principles of a circular economy.

4.1.5 Waste Sector

Waste management represents a key challenge for environmental sustainability in the SADC region. The expected increase in population and growing production of industrial and agricultural products will inevitably exacerbate current gaps in national waste management systems. There is, therefore, scope for regional integration within this sector to achieve greater impact in addressing waste management issues.

The largest source of GHG emissions in the waste sector is landfill methane (CH4), followed by wastewater (CH4) and nitrous oxide (N2O). Minor emissions of CO2 result from incineration of waste containing fossil carbon (C) (plastics; synthetic textiles). There are large uncertainties with respect to direct emissions, indirect emissions and mitigation potentials for the waste sector.

Existing waste-management practices and increased infrastructure for wastewater can provide effective mitigation of GHG emissions from this sector. There is a wide range of environmentally-effective technologies with the potential to mitigate emissions and provide public health, energy generation, conservation of water resources, environmental protection, reduction of untreated discharges to surface water, groundwater, soils and coastal zones and sustainable development co-benefits.

Synergies in implementation of this strategy and that of the SADC Waste Management Strategy, the Protocol on Environmental Management for Sustainable Development, other Environmental Conventions such as the Basel, Stockholm and Bamako, will need to be explored if significant reductions of emissions from this sector are to be realised. The waste 'hierarchy' should be followed, including waste avoidance and reduction, re-use, recycling, recovery, treatment and disposal, activities which potentially contribute to a reduction in emissions from material life cycle.

To address the above challenges, the following waste sector mitigation strategies are recommended:

1. Promote green principles in waste management.
2. Improve the management of landfill sites.
3. Enhance education and public awareness to divert waste from landfill sites.

4.1.6 Transport

The transport sector is a key enabler for SADC's achievement of sustainable development. One of the objectives indicated in the RISDP is the development of seamless, integrated, efficient, safe, cost effective and responsive transport systems. Another policy framework relevant in achieving the objective mentioned above is the SADC Protocol on Transport, Communications and Meteorology, which aims to ensure that the transport sector remains competitive and sensitive to emerging issues such as climate change (SADC, 1996).

GHG emissions from the transport sector emanate from fuel combustion in vehicles, maritime and air transport. Transport systems in the region are characterised by air pollution, congestion and energy security (oil import) problems. Solutions, therefore, cannot be focused on GHG emissions alone. Various mitigation options are available in the transport sector most of which relate to a shift in the use of cleaner transport technologies and green fuels.

Hydrogen is being taunted as one of the keys to unlocking sustainable energy and low-carbon transport. Globally, a number of countries have developed and adopted their Hydrogen Strategies (Australia, Germany and the US). Within the SADC Region, South Africa has started compiling a hydrogen roadmap (Creamer Media, 2021).

There are three main uses of hydrogen, namely:

- As fuel for transport and electricity peaking plants;
- As heat for industry and residential and commercial buildings; and
- As feedstock for chemicals (e.g. fertilizers, fuel refining and plastics) and products (e.g. metallurgy, food, steel and glass).

The Hydrogen Council projects that globally, hydrogen will power about 400 million passenger vehicles, about 20 million trucks and about 5 million buses by 2050 (Creamer Media, 2021).

SADC already boasts the biggest production of platinum in the world. Platinum is a critical element of the hydrogen economy as a catalyst in fuel cells production and in electrolysis of water in the production of green hydrogen. Fuel cells in turn are critical in transforming the region's fossil fuels powered transport industry into electric vehicles

To address the above challenges, the following transport sector mitigation strategies are recommended:

1. Promote the design and implementation of measures to reduce emissions in the transportation sector.
2. Develop institutional capacity to deal with opportunities and challenges of the transport sector going forward.

4.1.7 Human Settlements and Infrastructure

Over the last decade, the urban population has increased in almost all SADC countries. In 2012, 39% of a total population of 257.7 million people were living in urban settlements. Human settlements are associated with high energy consumption, poor waste management systems and inefficient transport networks and high energy consuming buildings. Their growth entails an increase in carbon dioxide emissions from energy consumption.

SADC cities can be turned into an opportunity to redesign the urban space and promote sustainable development in the long term. Investments in green cities have the potential to improve the living conditions of the urban population and reduce future climate change impacts.

Infrastructure such as dams, roads, power lines will be impacted by climate change. Climate proof this infrastructure.

To address the above challenges, the following human settlements and infrastructure sector mitigation strategies are recommended:

1. Promote and harmonize regional standards and guidelines on green buildings.
2. Promote the uptake of climate resilient ecosystem-based or green infrastructure in urban and peri-urban planning.

4.1.8 Mining

The minerals sector contributes significantly to the region's economy and is, therefore, also linked to regional carbon emissions. Mining is an energy-intensive activity, with a high reliance on fossil fuel-based energy sources. In addition to the adaptation strategies and actions outlined earlier in the Strategy, it is, therefore, also important that the sector contributes to climate mitigation. More than 90% of greenhouse gas (GHG) emissions in the mining sector stem not from the direct operations, but instead from upstream and downstream components of the mineral value chain. These 'scope 3 emissions' are central to the discussion of the mining sector's response to climate change. Significant progress is required in measuring and mapping the GHG emissions across entire value chains and at the level of individual operations. Such data will allow for efficient and evidence-based engagements with partners across the value chain around emission reductions. Standardized frameworks are required to effectively track progress, enhance accountability and support comparative analysis.

To address the above challenges, the following mining sector mitigation strategies are recommended:

1. Support the reduction of GHG emissions from the mining sector.
2. Support the development and adoption of new climate-smart design, technologies and regulatory standards that promote resource use efficiency in the mining sector, including the adoption of emission-reduction technologies and processes within mineral value chains.

05
MEANS OF IMPLEMENTATION

Means of implementation are critical for the effective operationalization of this Strategy and Action plan. The major components identified in this Strategy are finance and resource mobilization; capacity development; technology development and transfer; communication advocacy and awareness; multi-stakeholder partnerships; and institutional governance. These elements below are needed to ensure a just transition for SADC and people.

5.1 Climate Change Finance and Resource Mobilization

It is acknowledged that within the SADC Region, as in most other developing regions, climate change investment needs are significant, and the availability of direct government funding is limited and variable amongst Member States. To best address the challenge of climate change, financing mechanisms should be coordinated to meet the self-identified needs of the region, balancing mitigation and adaptation spend in proportion to these needs. The transparent tracking of climate finance should clearly demonstrate this balance, as well as the provision of new and additional climate finance to support developing country needs. The SADC region will take direct and urgent responsibility for mobilizing climate finance to implement climate change programmes in all sectors of the economy, especially pursuing mechanisms which offer Member States the opportunity to transition towards low emission and climate-resilient development pathways.

There are multiple potential avenues to pursue financing for climate change, which include domestic financing from member country's budgetary allocations, public-private partnerships and private sector-based financing mechanisms; direct bilateral funding and development partner-based mechanisms between Member States and specific development partner countries and/or organisations; multilateral funding mechanisms, especially the Green Climate Fund (GCF) and other mechanisms under the UNFCCC and Paris Agreement, as well as other sources of international climate finance and support, and international market-based instruments including emissions trading systems.

To that end the SADC region will:

1. Mobilise new and additional climate finance to support Member Country needs.
2. Promote and support the resource mobilisation capacity at Secretariat and Member States level.

5.2 Capacity Development

For the region to effectively respond to the challenges and opportunities of climate change there is an urgent need to build and strengthen capacities on climate change issues at various levels. This calls for actions that will promote and strengthen the capacity of the SADC Secretariat, its Member States, and other relevant stakeholders, in relation to climate change policies and programme development and implementation.

To address the above challenges, the following capacity development key performance areas are recommended:

1. Empower relevant capacity building institutions and facilitate the exchange of experiences, information, and best practices.
2. Support and strengthen participatory and integrated approaches to mainstream climate change impacts into planning and decision-making processes.

5.3 Technology Development and Transfer

The development and transfer of appropriate technology forms an integral part of the SADC's efforts to respond to climate change. It is against this background that Africa and the SADC Region call upon developed countries to commit to the deployment, diffusion and transfer of technologies to developing countries, based on principles of accessibility, affordability, appropriateness and adaptability, as well as to address barriers to technology transfer.

To address the above challenges, the following strategies are recommended:

1. Support appropriate technology cooperation, active development, transfer and adoption.
2. Support research and institutional development to foster endogenous technologies, as well as to develop the local manufacturing of cleaner mitigation and adaptation technologies.

5.4 Communication, Advocacy and Awareness

A well-crafted communication and advocacy plan is essential for the successful implementation of this SADC Climate Change Strategy. The overall goal of the plan will be to link all stakeholders to enable effective understanding of the key issues. It will also facilitate information sharing, enhanced collaboration, attract further support and allow for a feedback on the effectiveness of the strategy. The plan must consider the role of other relevant institutions and stakeholders, in achieving both the objectives of the Strategy and in its implementation. For this to be achieved the following actions need to be undertaken.

To address the above challenges, the following strategies are recommended:

1. Maximize advocacy, awareness, and communication around climate change issues in different SADC countries.
2. Enhance capacity of climate scientists, researchers, science communicators, media specialists and relevant professionals on packaging and disseminating appropriate climate change messages.

5.5 Institutional Arrangements and Governance

Climate change is a multi-disciplinary and cross-cutting issue. Implementation of the Strategy will require close coordination of relevant stakeholders at all levels, including international, regional, national and local levels. Coordination of the implementation of the Strategy is a function of the SADC Secretariat as guided by the Member States. However, the current capacity and institutional arrangement for the effective implementation and coordination of the Strategy at both Secretariat and Member State level is inadequate and will require improvement.

It is also imperative that the impacts of climate change variability and change be integrated into development planning and budgeting processes throughout the region. This integration should lead to the adoption of measures to reduce vulnerability and address risk reduction as an integral part of the development agenda of the Region. Climate-proofing of the current and future development efforts requires the development of “climate smart” systems that integrate disaster risk reduction, environment management, climate change and sustainable development.

To address the above challenges, the following strategies are recommended:

1. Enhance the participation, representation, and coordination of SADC climate governance structures.
2. Promote multi-sectoral policy design and implementation, inter-ministerial collaboration, or public-private co-design and implementation.

5.6 Multi-stakeholder partnerships

Fostering partnerships around shared concerns and opportunities is integral for achieving climate action. The engagement of non-governmental actors in the CCSAP, including community-based structures operating at the local level, will broaden the democratic basis of SADC's climate vision and impart legitimacy on the recommendations, plans and strategies. These different groups of stakeholders can create new champions of the process, players that will ultimately contribute to the successful adoption and ownership of political processes.

Citizens in the region are requesting more accountability, deeper participation, and collective action in policy formulation, engagement, and decision making. Partnerships can be established or strengthened for the following purposes:

- Mobilizing political support and commitment for climate change action.
- Mobilizing partners for building capacity for climate action.
- Facilitating experience sharing and joint learning among stakeholders.
- Facilitating knowledge generation and learning.
- Facilitating multi-stakeholder dialogues for influencing change at policy and practice levels.

There have been some efforts to establish and operate partnerships in the SADC region. However, sustaining their operations has been a challenge. Therefore, effective implementation of the strategy requires taking the following actions.

To address the above challenges, the following strategies are recommended:

1. Strengthen regional and national level partnerships for research, capacity development, and knowledge sharing on climate change mitigation and adaptation.
2. Increase meaningful public participation in climate policies across the region and in the CCSAP specifically.

5.7 Specific inclusion of marginalised and vulnerable groupings, including gender/women and youth

The impacts of climate change amplify existing inequalities and disparities across various gender and generational groupings. Women's dependence on, and unequal access to land, water and other resources and productive assets, mean that they are disproportionately affected by climate change. Article 31 of the SADC protocol on Gender and Development recognizes that 'state parties shall develop policies and strategies, and programmes to address gender issues in climate change in accordance with the SADC Protocol on Environment and Sustainable development, and conduct research to assess the differential impacts of climate change and put in place effect mitigation and adaptation measures'. Article 20.2 of the Protocol on Environmental Management for Sustainable Development requires that 'State parties shall undertake gender analysis and gender mainstreaming of all environmental management, climate change and sustainable development policies, programmes, projects and budgets'.

Furthermore, Article 12 of the Protocol on Climate Change urges member states to adopt the necessary legislative and administrative measures to enhance adaptation to the impacts of climate change given a recognition that there are diverse and gender differentiated levels of vulnerability. This is in addition to other documents, protocols and strategies such as the SADC Gender Mainstreaming in the Water Sector Handbook, international and national gender and development frameworks.

To address the above challenges, the following strategies are recommended:

1. Develop a regional gender and climate change action plan that will serve as a roadmap for guiding gender integration in the member state climate policies, strategies and plans.
2. Encourage strategic partnerships to develop, implement and upscale climate resilient and gender responsive policies, strategies and programmes in the region.

06
MONITORING, EVALUATION AND REPORTING

A Monitoring and Evaluation (M&E) framework is required to track the performance and impact of the SADC Climate Change Strategy and Action Plan. To achieve this, a standardized monitoring, evaluation and reporting framework for climate change programmes needs to be established.

Countries in the region are in the process of updating their NDCs in 5-year increments (2020 and 2025). SADC can record the cumulative commitments of member countries which is a key priority for regional adaptation, mitigation and MRV tracking. This is true also for the mid-century climate development Strategies for MS (also known as the Long-term Strategies).

At the same time, it is necessary to take advantage of technological change and innovation that is making information directly available to millions of people and allowing for the collection of vast numbers of data points in real time. This will enable more effective monitoring and evaluation by communities and empower citizens to hold governments to account in terms of accomplishing their national climate commitments and SDGs.

In terms of reporting on the implementation of the Strategy, the SADC Secretariat shall compile reports bi-annually based on the outcomes of the Monitoring and Evaluation Framework, with inputs from Member States and information derived from the National Communications and the Biennial Updated Reports to the UNFCCC. The review process should involve the participation of non-state actors and should aim to increase the reach of the review process.

To address the above challenges, the following strategies are recommended:

1. Track and monitor the cumulative climate contributions of SADC member countries, including both elements of mitigation and adaptation elements.
2. Harmonize and strengthen country-level Monitoring and Evaluation systems and reporting channels.
3. Monitor the implementation of the SADC Climate Change Strategy and Action Plan.

07
SADC CLIMATE CHANGE ACTION PLAN

Table 7-1: Adaptation Action Plan

ADAPTATION ACTION PLAN						
Sector	**Strategic Interventions**	**Actions**	**Expected Outputs**	**Responsibility**	**Time-frame**	**Cost[v] (USD)**
Agriculture	Promote adaptation through climate-smart agricultural technologies and improved cropping and livestock systems based on appropriate options suited to local contexts.	Promote research and identification of climate appropriate livestock and crops and support their uptake for both commercial and subsistence farmers.	Uptake of climate appropriate cultivars and breeds.	Food Security and Agriculture (FANR)	S	500 000
		Promote climate responsive agriculture and livestock strategies and practices, such as conservation agriculture, holistic rangeland management, improved cereal legume systems, agroforestry, targeted fertiliser application, and stress-tolerant seeds (amongst others). This includes the expansion of indigenous climate-resilient practices, such as locally-proven Integrated Pest Management (IPM) technologies.	The adoption of climate-responsive, locally-informed agricultural practices.	CCARDESA & MS	M	800 000
		Promote soil and water conservation, water-use efficiencies and water harvesting for both crops and livestock.	Sustainable water use in the agricultural sector.	CCARDESA & MS	S	500 000
		Promote the ecologically beneficial combination of crops and livestock to restore soil productivity and balance income and expenditure. In addition, make use of compost as a substitute to traditional fertilizers in order to enrich soils, making use of traditional adaptation knowledge from local communities.	Crops and livestock are managemed to ensure soil productivity.	Environment & sustainable development (FANR)	S	500 000
	Build farmer and community capacity and opportunities for agricultural adaptation to climate change.	Strengthen the participation of indigenous agricultural stakeholders, including farmers, in climate policy planning, agenda setting, implementation and monitoring.	Farmers are included in climate policy processes.	Environment & sustainable development (FANR)	S-M	3.5m
		Develop community capacity related to seasonal climate forecasts and the use of this information by extension services.	Community is about to use forecast information to build resilience.	FANR) & CCARDESA	M	1.5m
		Promote and transfer digital solutions to small businesses to improve efficiency in the agriculture value chain.	Improved value chain effiency of small agro-businesses.	MS		
		Enhance and explore the diversification of employment opportunities for women and youth in agriculture, including diversification/ high-value of crop types and pursuing other on-farm activities, such as agro-tourism.	More women and young people have jobs in the agricultural sector.	MS		

V. This is budget estimate for the actions that the Secretariat needs to undertake. For member states and other stakeholders, budget provision has not been made

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Agriculture	**Develop a regional framework for agriculture research and development related to climate adaptation, including climate vulnerability assessments.**	Promote regional harmonisation of legal frameworks on admission of new varieties/ breeds and pesticides to accelerate innovation and uptake, including seed exchange across borders.	Legal frameworks are harmonised across the region.	FANR	S	800 000
		Identify vulnerability hotspots and promote the strengthening of regional vulnerability mapping to enhance the effectiveness of targeting context-appropriate interventions and scaling them up across the region.	Informed planning and decision making .	FANR	M	2m
		Give more emphasis to the roles of indigenous and orphan crops in research and extension.	Regional food security improved.	Food Security and Agriculture (FANR)	M	300 000
		Support the financing and scaling of local/ indigenous solutions to climate adaptation in the agricultural sector.	Local solutions receive funding and are adopted across the region.		S-M	2m
Water	**Promote integrated water resource management in planning and investment for climate change adaptation.**	Strengthen regional capacity for generating, analysing and interpreting water and climate related data.	Informed stakeholders on water-climate nexus.	sustainable development (FANR) Transboundary water mgmt. (I&S)	M	2.5m
		Support the recognition and protection of the right to water and sanitation (as recognized by the United Nations) at national and regional levels.	All SADC citizens have adequate and clean water and sanitation.	Science, technology and innovation (I&S)	S	500 000
		Strengthen the monitoring and enforcement of relevant regulations to support sustainable, integrated water management.	Water regulations are enforced.	MS	M	
	Promote the sustainable management of water resources in the region, including water conservation, and water use efficiency, focusing on both quantity (storage and efficiency) and quality aspects.	Promote investment in projects that incorporate nature-based solutions (Nbs) through the sustainable management, protection and restoration of 'natural infrastructure', such as the restoration of mountain catchments, wetlands and riverine vegetation.	Natural ecosystems are managed sustainably, protected and restored.	Transboundary water mgmt. (I&S)	M	
		Promote rainwater harvesting technologies and the development of related infrastructure.	Reduced water losses and enhanced water balance.	Science, technology and innovation (I&S)	S	
		Promote the development of water resource infrastructure in order to increase storage capacity of the region.			M	
		Build capacity on efficient water management practices across key sectors.	Improved capacity for efficient water resource management across sectors.	GWPSA	S	2.5m
		Significantly improve and enforce water pollution regulations and optimise and restore river ecosystem health.	Enhanced water quality.	MS	M	

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility		Cost[v] (USD)
Water	Promote institutional strengthening and capacity for improved disaster preparedness in the water sector.	Enhance regional capacity in early warning, disaster risk reduction and management of water-related disasters.	Reduced population at risk from climate related disasters.	Regional Early Warning (ORGAN)	M	
		Strengthen the capacity of transboundary river basin organisations to integrate climate resilience in their programmes.	Climate-informed and knowledgeable national and regional management institutions.	Transboundary water mgmt. (I&S)	M	
		Promote sharing of water and climate-related data across relevant national and regional institutions.		Science, technology and innovation (I&S)	M	
		Incorporate sea level rise projections and coastal zone management into regional planning processes, including adaptation measures in the various sectors.		Environ& Sus develop (FANR)	M	500 000
Biodiversity	Reduce the fragmentation of protected areas and create integrated and connected land and water systems, such as Transfrontier Conservation Areas, and surrounding land-uses, that strengthen the mitigation and adaptation potential of natural systems.	Support large-scale programmes that promote adaptation for through NbS[vi] , including holistic rangeland management, conservation agriculture, carbon credit mechanisms, sustainable blue economy, mangrove and coastal habitat restoration.	The adoption of large-scale programmes that benefit people and nature.	Environ & sustainable development (FANR)	S	500 000
		Promote connected landscapes and ecosystems in the regions' biodiversity strategies, policies and legal framework.	Increase in connected landscapes.			
		Establish policies and legal frameworks that facilitate the increase in marine, coastal and terrestrial protected areas (as per the target set by CBD), taking into account climate risks and impacts and planning accordingly.	Increase in the overall number of TFCAs in the region.	Natural Resource Management (FANR)	M	500 000
	Implement incentive instruments that support mitigation actions and improve the management and conservation of natural resources by a variety of stakeholders.	Promote awareness within the policy community and private sector around opportunities for innovative financing and investment to support NbS and EbA.	Uptake of EbA and NbS.			
		Support carbon credit mechanisms and fiscal incentives for the establishment of community-REDD+ projects, and promote other financial mechanisms to support local/national biodiversity protection, such as Access and Benefit Sharing.	Enhanced economic and social benefits to support biodiversity conservation.	FANR	M	2m
		Ensure that communities have an incentive to support biodiversity conservation through inclusive biodiversity management and revenue sharing models.	Imrpoved community based natural resource management.	Natural Resource Management (FANR)	S	500 000
	Promote sustainable management practices and approaches in all sectors in order to reduce habitat degradation, deforestation and the over-exploitation of natural resources.	Promote the integration of NbS and EbA in the NDCs of the region, as well as in other sectoral policies such as fisheries, wildlife, forest and agriculture.	NbS and EbA are included in broad range of policies in the region.	Natural Resource Management (FANR) Employment, Labour and Youth (SHD)	S	1m

VI. NbS defined by IUCN as "actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits". IUCN Global Standard for Nature-based Solutions - https://www.iucn.org/theme/nature-based-solutions/resources/iucn-global-standard-nbs

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Biodiversity	Promote sustainable management practices and approaches in all sectors in order to reduce habitat degradation, deforestation and the over-exploitation of natural resources.	Promote alternative, climate-resilient livelihood opportunities to reduce pressure on biodiversity, including a focus on ecosystem restoration.	Increase in number of sustainable jobs.	Natural Resource Management (FANR)	S	
		Promote societal recognition and awareness of the need for ecosystems to be resilient to climate change, the key role that ecosystems play in climate adaptation and mitigation, and the co-benefits they will receive through the provision of ecosystem goods and services, (e.g. mitigation, food security, etc).	Protection and sustainable management of ecosystems.	Employment, Labour and Youth (SHD)	S	
		Promote scientific and indigenous knowledge, research and information sharing on the vulnerability of biodiversity to climate change and the need for adaptation strategies.			S	
		Implement capacity building initiatives on the sustainable utilization and management of biodiversity at different levels, particularly within communities, through the promotion of rights and access to resources and benefits.	Improved and more inclusive biodiversity resource management.		S	3m
Blue Economy (fisheries)	Promote the development of sustainable, inclusive, equitable and climate-resilient blue economies at the national and regional levels.	Promote climate change adaptation as a key component of national and regional efforts to develop blue economies and promote improved ocean and freshwater ecosystem governance.	Blue economy strategies that promote climate adaptation.	FANR & applicable MS	S	500 000
		Improve evidence-based decision making to tackle climate change impacts on marine and freshwater ecosystems and aquatic resources through targeted national and regional research efforts that inform adaptation strategies.	Research informs adaptation strategies on oceans and marine ecosystems.	FANR	S	500 000
		Promote a regional approach to adaptation through lesson sharing and cooperation in developing adaptation strategies, recognising the particular vulnerability of small-scale fishing communities.	Regional approach to adaptation.	FANR	S	1m
		Strengthen regional efforts to adopt an ecosystem approach to fisheries management, including the protection of critical marine and coastal ecosystems.	Adoption of regional ecosystem based approach to fisheries.	MS	M	
		Improved environmental legislation and management to address pollution, especially marine litter and plastics pollutio.	Decrease in ocean pollution.	MS	M	
	Promote sustainable production and utilization of aquatic (marine, freshwater and aquaculture) resources.	Develop an effective Monitoring, Control, and Surveillance system for aquatic resource management.	Marine and freshwater resources are managed sustainably.	MS	M	
		Support evidence-based decision making on management of fishing effort and addressing unsustainable fishing practices (by-catch discard).		MS	M	
		Enhance capacity building in coastal and inland fisheries communities on sustainable utilization of resources and value addition through improved storage and processing to reduce waste and loss as well as diversification of livelihood strategies.		MS	M	

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Human Health	Strengthen regional and national research and health care responses to climate change related health impact.	Further research the epidemiology of zoonoses, animal diseases, as well as emerging infectious diseases (such as COVID-19) to understand disease systems, forecast and provide early warning and assess economic impacts.	SADC is more prepared and better equipped to deal with the health implications of climate change.	Health and nutrition (SHD)	S-M	400 000
		Strengthen regional collaboration and information sharing to respond to the changes in the transmission seasons and geographical range of vector-borne diseases (malaria) and health issues related to air pollution increase.		Regional Early Warning (ORGAN)	M	
		Build technical capacity in national, regional, and professional training institutions to reduce risk to diseases transmitted by vectors, infectious diseases and others exacerbated by climate change.		SARUA	S-M	500 000
		Build capacity in public health institutions for rapid response to climate change related epidemics.	Public health facilities respond quickly to climate change related health issues.	MS	M	
		Address the livestock/wildlife-health nexus through the 'One Health approach' that employs integrated approaches to reduce the threat of diseases that pass from animals to people.	The threat of animal-wlidlife disease transmission is reduced.	Natural Resource management (FANR)	M	500 000
	Building resilient communities empowered to take care of basic health care needs through empowerment programmes.	With involvement of local leadership, build public awareness and educational programmes through curriculum development, training and public media to enable community-based monitoring and buy-in.	Communities are trained and empowered to be in climate-health care awareness.	Health and nutrition (SHD)	S	500 000
		Promote preventive healthcare to reduce vulnerability to climate change and variability in the public health sector.	Resilient community that is well prepared.	Public Relations (ES)	S	
		Develop mental health awareness training and basic health information systems, that include simple affordable solutions to prevent illness without having to access healthcare professionals.	Communities are informed and trained to deal with mental health issues.	Education & Skills development (SHD)	M	
Human settlements and Infrastructure	Promote public and private partnerships for climate-resilient infrastructure development and financing.	Collaborate with the insurance sector on strategic climate risk assessments and in developing guidelines for making infrastructure investment climate-resilient.	Infrastructure and human settlements are more resilient to climate impacts.	Infrastructure	M	800 000
		Promote climate adaptation and mitigation in human settlements planning frameworks, land-use and building plans approval granting procedures.			S-L	
		Support research to guide design and construction of new infrastructure for future climate resilience.			M	
		For existing infrastructure promote retrofitting and/or ensuring that maintenance regimes incorporate resilience to the impacts of climate change over an assets lifetime. This includes climate proofing strategic public infrastructure.		MS	S-M	

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Human settlements and Infrastructure	Integrate green infrastructure solutions into human settlement planning and development.	Restore, enhance and sustain natural ecosystems (eg. urban river systems) and green spaces in the built environment.	Uptake of green infrastructure in planning and design.	Environment and Sus Dev (FANR)	M	
		Increase institutional capacity in the region to improve understanding, guidance and design supporting decision making around replacing hard, engineered grey infrastructure with nature-based (green infrastructure) solutions (e.g. porous surfaces in cities to absorb water and prevent flooding) to climate impacts on infrastructure and human settlements.			M	2m
Disaster Risk Reduction	Improve regional climate risk governance, including planning and risk assessments, for pre- and post-disaster preparedness.	Enhance coherence of regional climate risk management and resilience building.	The region has a coherent and operational early warning and disaster risk management approach.	Regional Early Warning (ORGAN)	S-M	
		Develop and operationalise integrated climate early warning systems in the region, upscaling to a broader climate-based multi-hazard disaster contingency risk planning.			S-M	
		Strengthen systemic climate risk reduction and climate adaptation measures at regional, national and community levels.			M	
		Invest in regional climate risks preparedness, response and recovery capabilities.			M	
		Promote ecosystems-based disaster risk reduction including the protection of transboundary ecosystems, sustainable use of natural resources and biodiversity for productive landscapes and services.		Environment and Sus Develop. (FANR)	M	
		Improve post-Disaster Needs Assessment (PDNA) capacities and operationalisation.		Regional Early Warning (ORGAN)	L	
	Promote the integration of climate change and disaster risk reduction instruments, strategies and operationalisation.	Expand and diversify climate-resilient production processes, value chains and markets.	Value chains and processes are climate-proofed.	Value Chains (IDT)	M	
		Promote regional evidence generation and knowledge management for disaster risk reduction and climate change integration.	More informed region on disaster risk reduction.	Information (I&S) Regional Early Warning (ORGAN)	S-M	
		Integrate disaster risk responses in existing regional climate initiatives – Climate Service Centre (CSC), Regional Vulnerability Assessment and Analysis (RVAA) and National Vulnerability Assessment Committees (NVACs).	Regional initiatives integrate disaster responses.		M	
Tourism	Enhance and promote climate-smart tourism models.	Explore and promote approaches for tourism stakeholders to support ecosystem-based adaptation.	A tourism sector that promotes climate adaptation and mitigation.	Tourism (FANR)	M	
		Support sustainable tourism development that does not undermine terrestrial or marine biodiversity ecosystem services that support climate adaption.		Regional Early Warning (ORGAN)	M	
		Initiate SADC carbon offset programmes which can be used by the tourism industry to offset carbon emissions while also enabling local SADC communities to generate income and strengthen their own resilience to climate change.			S	1m

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Tourism	Enhance disaster risk reduction and response measures in vulnerable tourism destinations.	Improve the assessment of climate risks for specific tourism sectors (terrestrial, marine, urban, business tourism, etc) and develop appropriate response strategies.	The tourism sector, and the communities reliant on it, are prepared for climate related eventualities.	MS	M	
		Promote the development of adaptive strategies for local communities living near tourism areas, or dependent on tourism for their livelihoods.		FARN & MS	S	
		Develop appropriate risk management and disaster prevention measures for the tourism sector based on local circumstances, such as flood warning systems, and fire prevention plans, evacuation drills, and appropriate strategies to inform tourists and to prepare them for such eventualities.			M	500 000
	Promote tourism as a viable, climate-resilient livelihoods alternative.	Promote internal and regional tourism to reduce the reliance on unsustainable livelihood practices.	Increased job creation in the tourism sector.	Employment, Labour and Youth (SHD)	S	
Mining and other extractive industries	Integrate climate risk management in the mining industry.	Strengthen environmental governance of the mining sector and support effective solutions to climate conflicts related to resource use (e.g. water/ air pollution) with mine-adjacent communities.	Climate change risk and related concerns are sufficiently included in mining sector operations and planning	MS	M	
		Include climate change in the environmental impact assessments and monitoring in the minerals sector.		MS	S	
		Encourage mining stakeholders to integrate climate change drivers within existing risk management and planning procedures and identify the action areas for climate risk and resilience within existing activities and across the entire asset life cycle.		MS	M	
		Support the restoration of ecological infrastructure (e.g. afforestation) as part of mine closure and rehabilitation processes.		MS	S	
ESTIMATED COST FOR ADAPTATION						**$34.1m**

Table 7-2: Mitigation Action Plan

MITIGATION ACTION PLAN						
Sector	**Strategic Interventions**	**Actions**	**Expected Outputs**	**Responsibility**	**Time-frame**	**Cost[v] (USD)**
Energy	Promote the development and harmonisation of policies and regulatory frameworks for renewable energy, energy conservation and energy efficiency.	Support the implementation of existing energy plans, including the prioritisation of the SADC Renewable Energy and Energy Efficiency Strategy.	Increase in the use of renewable energy in the region.	Energy (I&S)	S	300 000
		Review regulatory frameworks in MS to allow greater investments and trade in renewable energy.			S	250 000
	Promote the development, expansion and use of renewable energy and cleaner energy technologies, especially wind and solar.	Develop renewable energy map for SADC and overlay this map against water/food/ biodiversity concerns to avoid trade-offs with other sectors.			S	500 000
		Promote electricity access from off-grid and mini-grid systems in rural areas.			M	
		Develop carbon pricing forums and alliances with a view to developing a regional carbon pricing market and fostering national carbon pricing instruments.	Alignment of energy-climate plans and commtiments.		M	500 000
		Develop a Regional Gas Masterplan that is aligned with existing mitigation plans and commitments.			S	500 000
	Ensure the successful completion of existing renewable energy projects, such as the Great Inga Scheme in the DRC (a priority of Agenda 2063 of the AU).	Ensure constant liaison with SAPP and MS to track and promote projects completion of renewable energy projects.	Great Inga Scheme is completed.	Relevant MS	M	
Agriculture	Promote sustainable, green agricultural practices and technology, such as agroforestry, integrated soil fertility management techniques, and sustainable crop and grazing land management practices.	Promote climate-smart agriculture in small, medium and large-scale crop and livestock production to improve productivity, enhance carbon sequestration, reduce emissions intensities, and foster system resilience.	Carbon and nitrogen emissions in the agriculture sector are reduced.	Food Security and Agriculture (FANR)	S	3m
		Improve crop and grazing land management systems to increase soil carbon storage and reduce deforestation, through nutrient use, tillage practices and residue management.		FANR & MS	S	
		Develop regulatory frameworks and incentives that promote the adoption of green technologies in agriculture.			M	200 000
		Promote regional research on agricultural technologies and practices that enhance carbon and nitrogen sequestration.			M	
	Promote low-carbon value chain management and agro processing.	Share research on best practice efficiencies and low-waste technology.	Low carbon value chains are implemented.	Value Chain (IDT)	M	
	Build capacity of farmers and other agricultural stakeholders to measure carbon emissions in the agricultural sector	Address data gaps and tools on measuring emissions from livestock, soil and vegetation carbon to encourage reporting and monitoring.	Farmers can quantify emissions reductions.	Food Security and Agriculture (FANR)	M	500 000

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Land Use, Land Use Change and Forestry	Promote sustainable forest management and restoration to enhance carbon sequestration, including through securing indigenous peoples land rights and land tenure.	Promote reforestation and afforestation programmes at the country level to offset deforestation associated with land use change.	Reduce the rate of deforestation and forest degradation.	Natural Resources Mngt (FANR) & MS	S	
		Promote and incentivize use and application of decentralized renewable energy technology to reduce dependency on wood and charcoal.			S	
		Promote and simplify the implementation of the SADC REDD+ programmes.			S	500 000
		Enhancing the sequestration rate in new or existing forests through adopting better land and soil management practices.			L	
	Promote transboundary community management of forest resources through opportunities and active programmes.	Promote regional veld and forest fire prevention programmes.	Enhanced regional community management of forest resources.	MS	S	
	Enhance education and public awareness on the importance of forest ecosystems for mitigation and adaptation of climate change (as well as in meeting other sustainable development targets).	Conduct education and public awareness programmes to enhance understanding and value of forest ecosystems, goods and services.	Forests are valued for the multiple climate and development benefits.	Public Relations (ES)	S-M	2m
		Apply a system of ecosystem accounting / natural capital accounting.		Environ and Sus develop (FANR)	M	500 000
Industrial Processes	Promote policies and regulatory frameworks that enhance resource use efficiency and cleaner production in industry.	Establish regional standards and guidelines on cleaner production systems.	Carbon emissions are reduced in industrial processes across region.	Industrial project preparation (IDT)	M	300 000
		Promote and incentivise development of local small, medium and large-scale clean industries.			S	
Waste Sector	Promote green principles in waste management.	Develop policies that encourage investment in alternative energy production using waste products.	Increased energy production from waste.	Environ and Sus Dev (FANR)	S	300 000
		Develop an enabling framework to promote waste minimization through education and behavioural change of waste generators and the general public.	Widespread waste avoidance and reduction, reuse and recycling.		S	1m
	Improve the management of landfill sites.	Manage landfill sites through the capping of sites with recovery and flaring, or use of landfill gas (LFG).	Minimised pollution and groundwater contamination through improved management of landfills.	Science, technology and trade, IDT & MS	M	
		Reduce illegal dumping and open landfills through monitoring and surveillance.			S-M	
		Promote alternative waste disposal options, such as the diversion of organic waste from conventional landfill activities.			S	

Sector	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Waste Sector	Enhance education and public awareness to divert waste from landfill sites.	Reduce waste to landfill through promotion of programmes that encourage incineration of MSW with energy recovery, and that encourage source-separation of food waste for use of biogas for energy production; food and garden waste for composting and large-scale in-vessel composting; dry recyclables including paper, and paper recycling.	Reduced waste in landfills.	Public relations (ES)	S	500 000
Transport	Promote the design and implementation of measures to reduce emissions in the transportation sector.	Promote green public transport networks and multimodal transport.	Reduced emissions from SADC's transport sector.	Transport (I & S)	M-L	
		Harmonise national standards and collaborate with SADCSTAN to develop regional standards on cleaner fuels and vehicle emissions.			M	
		Promote the shifting of freight from road to rail and consider cross-MS development of rail infrastructure to ensure improved trade and ease of movements.			L	
		Intensify and accelerate research on cost and benefit analysis on cleaner fuels and efficient vehicles.			M	
		Encourage voluntary sectoral agreement to reduce net CO2 emissions in the aviation sector across SADC member countries.			M-L	
		Support the greater uptake of e-vehicles and use of hydrogen fuel cells.			S-M	
	Develop institutional capacity to deal with opportunities and challenges of the transport sector going forward.	Train internal personnel to identify mitigation opportunities, integrate climate efforts with other development priorities, execute economic reforms, and cultivate investment opportunities.	Officials are aware of opportunities in low emissions transport sector.	Education & Skills development (SHD)	S	300 000
Human Settlements and Infrastructure	Promote and harmonize regional standards and guidelines on green buildings.	Develop and implement green building codes to reduce energy demand.	Low-carbon human settlements & infrastructure.	Environment and Sus develop, (FARN)	M	300 000
	Promote the uptake of climate resilient ecosystem-based or green infrastructure in urban and peri-urban planning.	Enhance and sustain ecosystems in the built environment.	Inclusion of green infrastructure human settlements across region.	Environment and Sus develop, (FARN)	M-L	200 000
		Promote/develop green corridors in urban and peri-urban areas, including the identification of areas at risk for environmental degradation, areas appropriate for green corridors, and guidelines necessary for establishing green corridors.				
Mining	Support the reduction of GHG emissions from the mining sector.	Support information sharing and standard setting relating to the mapping of GHG emissions of mineral value chains in the region, as well as enhanced transparency related to this information.	Mining sector has reduced emissions and sustainable closure processes	FANR and CTCN	S	500 000
	Support the development and adoption of new climate-smart design, technologies and regulatory standards that promote resource use efficiency in the mining sector, including the adoption of emission-reduction technologies and processes within mineral value chains.	Support the greater use of e-vehicles and renewable energy resources.			S-M	300 000
		Support the restoration of ecological infrastructure (e.g. afforestation) as part of mine closure and rehabilitation processes.		Environment and Sus develop, (FARN)	S	500 000
ESTIMATED COST FOR MITIGATION						**$12,95m**

Table 7-3: Means of Implementation and Monitoring, Evaluation and Reporting Action Plan

MEANS OF IMPLEMENTATION AND MONITORING, EVALUATION AND REPORTING ACTION PLAN

KPA	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Climate change finance and resource mobilization	Mobilise new and additional climate finance to support Member Country needs.	Lobby SADC MS governments to maximize resources through wide-scale domestic financing approaches.	Climate finance mobilised and projects supported.	Secretariat and member states	Medium term	100 000
		Promote and secure private sector climate funding through the SADC Private Sector Forum.			Short	500 000
		Promote the establishment of mechanisms for regional climate financing to leverage and attract international climate finance.			Short	200 000
		Support the accreditation of national and regional entities to promote direct access to multilateral climate funds.			Short	150 000
		Lobby for the provision of new and additional climate funding, including the adequate replenishment of climate funds to meet climate needs, and the reduction of conditionalities associated with accessing climate change financing.			Medium	100 000
		Address market barriers to accelerate private sector climate investments including the need for co-financing or financial incentives and the role of concessional finance in leveraging climate finance across the region.			Medium	100 000
	Promote and support the resource mobilisation capacity at Secretariat and Member States level.	Promote and support the capacity of direct access entities across the region, including through south-south co-operation.	Climate finance raised through successful bids.	Secretariat and member states	Short	500 000
		Support capacity building for the successful preparation of funding proposals by a range of national and sub-national entities.			Short	
Capacity Development	Empower relevant capacity building institutions and facilitate the exchange of experiences, information, and best practices.	Promote regional collaboration through regional networks and regular best practice exchanges.	Institutions are strengthened.	Secretariat, SARUA and member states	Short	100 000
		Access and harness international climate change capacity building programmes and initiatives as per the technical needs of relevant stakeholders.			Short – Medium	120 000
	Support and strengthen participatory and integrated approaches to mainstream climate change impacts into planning and decision-making processes.	Support capacity building needs of SADC countries to address institutional and technical challenges and constraints at national and local levels.	Approaches are integrated and more participatory.		Short	300 000
Technology Development and Transfer	Support appropriate technology cooperation, active development, transfer and adoption.	Promote the harmonisation of policies for the development and transfer of climate friendly technologies among Member States	Climate friendly technologies are developed, transferred, and adopted in SADC MS.	Secretariat and member states	Medium	300 000
		Address technology transfer barriers, including rules of trade tariffs, intellectual property rights and technical trade barriers (standards, eco-labelling)			Medium	150 000
		Encourage the development and transfer of technologies through economic incentives			Medium	200 000

KPA	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Technology Development and Transfer	Support research and institutional development to foster endogenous technologies, as well as to develop the local manufacturing of cleaner mitigation and adaptation technologies.	Strengthen Climate Technology and Network Centres, such as Southern Africa Science Service Centre for Climate Change and Adaptive Land Use.	Local technologies are developed and manufactured in SADC.	Secretariat and MS	Medium	200 000
		Collaborate with international technology centres, such as the Climate Technology Centre Network.			Medium	100 000
Communication, Advocacy and Awareness	Maximize advocacy, awareness, and communication around climate change issues in different SADC countries.	Document and share best practices on climate change responses in SADC countries.	The region is more aware of climate change in a variety of sectors and at different levels.	Secretariat and member states	Short	500 000
		Promote different and new communication channels and practices, including social media and online climate apps.			Short – Medium	150 000
		Promote awareness around this climate Strategy specifically and increase meaningful public participation through opportunities for non-state actors to contribute towards co-design and co-implementation of climate policies and the CCSAP specifically.			Short	100 000
		Formulate strategies for harnessing climate knowledge and information that can easily be accessed by women, youth and vulnerable groups.			Short	100 000
		Widen the scope of this Strategy to harness scientific, indigenous, and traditional knowledge on climate adaptation and mitigation.			Medium	
	Enhance capacity of climate scientists, researchers, science communicators, media specialists and relevant professionals on packaging and disseminating appropriate climate change messages.	Conduct training to promote the science to policy interface.	Climate science-policy training developed and delivered.	Secretariat, SARUA and member states	Medium	500 000
		Promote materials on climate change that are accessible to all and translated into languages understood by everyone.		Secretariat, SARUA, MS, Development partners	Short	
		Promote public education and outreach programmes on climate change for citizens, focusing on youths, women, and other vulnerable groups targeting both urban and rural areas.	APPS developed and deployed.		Short	500 000
		Emphasise the importance of raising awareness through non-formal, informal and formal education (similar to the way the population was educated about COVID-19).			Short	500 000
Institutional Arrangements and Governance	**Enhance the participation, representation, and coordination of SADC climate governance structures.**	Establish and strengthen the National Climate Change Coordinating Committees at member country level – committees specifically tasked to improve participation and representation in climate policy.	Coordinated and representative climate change regional policy.	Secretariat and member states	Short	
		Strengthen and capacitate the SADC Cross-Sectorial Technical Working Group on Climate Change (CTWG).	CTWG capacitated.		Short – Medium	
		Establish a fully-fledged Climate Change coordinating structure at Secretariat level.	Climate Change Coordinating Committee established.		Medium	
		Strengthen National and Regional Climate Change Centres of Excellence that foster collaboration with other centres regionally and internationally.	Well-recognised centres of excellence.		Short	

KPA	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Institutional Arrangements and Governance	**Enhance the participation, representation, and coordination of SADC climate governance structures.**	Facilitate regional policy dialogues for Ministers responsible for climate, environment, water, agriculture, energy and finance.	Regional, inter-ministerial and multistakeholder collaboration.	Secretariat	Short	
Institutional Arrangements and Governance	Promote multi-sectoral policy design and implementation, inter-ministerial collaboration, or public-private co-design and implementation.	Establish and strengthen regional climate multi-stakeholder platforms for dialogue and exchange.	Regional, inter-ministerial and multistakeholder collaboration	Secretariat	Short	
Multi-Stakeholder Partnerships	Strengthen regional and national level partnerships for research, capacity development, and knowledge sharing on climate change mitigation and adaptation.	Establish and strengthen regional climate multi-stakeholder platforms for dialogue and exchange.	Strengthened climate dialogue with non-state actors.	Secretariat and member states	Medium	
		Strengthen platforms for private sector engagement.			Short	
		Articulate and financially support the more prominent role of stakeholders, including grassroots and civil society groups.			Short	
	Increase meaningful public participation in climate policies across the region and in the CCSAP specifically.	Provide specific opportunities for non-state actors in the co-design and co-implementation of climate policy. This will include devolving responsibilities to different stakeholders	Policies that are informed by ideas and interests of various non-state actors.	Secretariat and member states	Medium	
		Organize dedicated stakeholder engagement meetings and local dialogues, in local languages, using tools that are suitable for low literacy situations. This should include the integration of local knowledge, which can later be formalized for integration in policy.			Medium	
Inclusion of Vulnerable groups, including women and youth	Develop a regional gender and climate change action plan that will serve as a roadmap for guiding gender integration in the member state climate policies, strategies and plans.	Advocate for social and gender integration in climate and climate sensitive sector policies, strategies, programmes and plans, such as the NDCs.	Mainstreaming of gender into climate policies	Gender (ES)	Medium	150 000
		Promote gender responsive planning and budgeting to strengthen the climate change policy processes.		Secretariat and member states	Medium	
		Develop innovate channels for communicating climate information to enable women and other groups to cope with the climate change events.			Medium	
	Encourage strategic partnerships to develop, implement and upscale climate resilient and gender responsive policies, strategies and programmes in the region.	Promote communities of practice interested and committed to issues of climate change and gender.	Partnerships and knowledge are strengthened on gender climate issues	Gender (ES)	Medium	
		Promote research and improve the quality of gender disaggregated data generated in priority sectors		Secretariat and member states	Medium	
		Promote the utilisation of local women's knowledge, skills and capacities in adaptation and mitigation measures			Medium	

KPA	Strategic Interventions	Actions	Expected Outputs	Responsibility	Time-frame	Cost[v] (USD)
Monitoring, Evaluation and Reporting	Track and monitor the cumulative climate contributions of SADC member countries, both in terms of adaptation and mitigation.	Initiate a tracking tool to monitor SADC member countries commitments within their NDCs and to promote implementation and higher ambition in both mitigation and adaptation commitments.	NDCs include mechanisms to ensure accountability to mitigation commitments.	Monitoring and Evaluation (FANR)	Short	200 000
	Harmonize and strengthen country-level Monitoring and Evaluation systems and reporting channels.	Conduct training to strengthen the capacity of SADC Member States in M&E of climate change programmes.			Short	150 000
		Promote the replication and up-scaling of M&E best practices.			Medium	
		Promote the uptake of new technology to facilitate evaluation and monitoring, ensuring that non-state actors are included in this process.			Medium	
	Monitor the implementation of the SADC Climate Change Strategy and Action Plan.	The SADC Secretariat shall compile reports bi-annually based on the outcomes of the Monitoring and Evaluation Framework, with inputs from Member States and information derived from the National Communications and the Biennial Updated Reports to the UNFCCC.	The SADC Climate Change Strategy and Action Plan is implemented.		Short – Medium	200 000
		Involve the participation of non-state actors in the review process.	Non-state actors participate in the implementation of the CCSAP.		Medium	
ESTIMATED BUDGET FOR MEANS OF IMPLEMENTATION, MONITORING, EVALUATION AND REPORTING						**$6 170 000**

08
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09 ANNEXURES

9.1 Annex 1: Main Regional Policies, Strategies and Protocols in Key Sectors

Sector	Policy/Strategy/Protocol	Date	Description
Overarching strategies	SADC Vision 2050	August 2020	SADC's Vision 2050 sets a long-term desired future for the region. This is a 30-year timeframe (to 2050) that helps to shape policy in anticipation of the goals that are already committed to. This Vision seeks to find common ground between different development aspirations, priorities, and interests among the 16 SADC member states and other actors. The Vision is based on three related pillars namely, industrial development and market integration, infrastructure development in support of regional integration, and social and human capital development. The pillars also recognize the transversal components of gender, youth, environment and climate change, and disaster risk management.
	Regional Indicative Strategic Development Plan (2020-2030)	August 2020	The new RISDP (2020), is a 15-year strategic roadmap that provides the strategic direction for achieving SADC's long-term social and economic goals. Climate change is included as one of the overarching principals of the RISDP.
	SADC Regional Infrastructure Development Master Plan	2012	The Plan builds on the SADC Infrastructure Vision 2027, and it is focused on 6 key sectors: Energy, Tourism, Transport, ICT, Meteorology, and Water. For each of these sectors, a Sector Plan was developed. In each of these key sectors, reference is made to environmental sustainability (e.g. renewable energy deployment, EIAs). However, investment in green infrastructure is not prioritized nor mainstreamed.
	Tripartite Programme on Climate Change Mitigation and Adaptation	2011	The programme was an initiative of the COMESA-EAC-SADC Tripartite, launched as a joint five-year programme with the aim to harmonize climate change programmes by the three regional blocs and address the impacts of climate change. The overall goal was to ensure the impacts of Climate Change in the COMESA- EAC-SADC region are addressed through successful adaptation and mitigation actions which also build economic and social resilience for present and future generations. The focus of the programme was to increase investments in climate resilient and carbon efficient agriculture (climate-smart agriculture) and its linkages to forestry, land use and energy practices by 2016.
	Sub-Regional Strategy to combat Desertification	1997	Priority programme areas were agreed upon for the SADC-SRAP include capacity building and institutional strengthening; strengthening of early warning systems; cooperation in the sustainable management of shared natural resources and ecosystems; information collection, management and exchange; development and transfer of appropriate technology to the community level; development of alternative sources of energy and socio-economic issues.
	SADC Industrialisation Strategy and Roadmap (2015-2063)	April 2015	The Strategy provides a blueprint for inclusive, long-term modernisation and economic transformation in the SADC region and is based on three interdependent and mutually supportive strategic pillars: Industrialisation, Competitiveness and Regional Integration. The Strategy acknowledges that industrial policy and implementation will be largely undertaken at the national level and that its success depends on forging a compact for industry consisting of the government, the private sector, civil society, labour and the development partners. It seeks to engender a major economic and technological transformation at the national and regional levels within the context of deeper regional integration, while aiming at accelerating the growth momentum and enhancing the comparative and competitive advantage of the economies of the region. The strategy recognised "the importance of ensuring environmental and social sustainability, taking into consideration envisaged impacts of industrialization on climate change and the adoption of technologies and modalities that enhance resource efficiency and reduced waste."

Sector	Policy/Strategy/Protocol	Date	Description
Agriculture	Regional Agricultural Policy	2013	The policy was approved by Ministers of Agriculture and Food Security in 2014 and endorsed by the SADC Council of Ministers and the SADC Summit in August 2014. Issues of sustainable development and climate change are prioritized in the policy. The policy specific objectives are: 1. Enhance sustainable agricultural production, productivity and competitiveness; 2. Improve regional and international trade and access to markets of agricultural products; 3. Improve private and public sector engagement and investment in the agricultural value-chains; and 4. Reduce social and economic vulnerability of the region's population in the context of food and nutrition security and the changing economic and climatic environment. The policy states inter alia: "proposed interventions will include: Promoting the development of crop varieties and animal breeds that are adaptable to climate change and variability". Under "FARM SUPPORT SYSTEMS AND SERVICES: Improvements in technology not only lead to gains in productivity but also assist in addressing emerging challenges such as climate change." The policy recognises a number of cross-cutting critical forms of vulnerability including climate change and variability, gender and equity issues, HIV/AIDS, and other such chronic and transitory vulnerabilities, limit the prospects of attaining food and nutrition security…. all SADC countries share similar concerns regarding the vulnerability of the agricultural sector and livelihoods to a wide range of acute and longer-term threats such as climate change, nutrition and market factors. However, Member States, for various reasons, have not committed sufficient budget resources to ensure sustainable information and response systems. It is mentioned that in addressing climate change, variability and related vulnerability SADC shall support measures to improve the regions' capacity to adapt to and mitigate climate change and variability.
	Regional Agricultural Investment Plan	2016	The Regional Agricultural Investment Plan for 2017-2021 provided indications regarding the policy instruments to be implemented by SADC and its member states. The RAIP combines investments and public policy instruments (regulations, incentives, etc.). The public policy instruments aim at accompanying productive investments and putting in place incentives and creating a regulatory environment conducive to agricultural development. Three specific objectives have been assigned to the RAIP: • Promotion of strategic commodities for food security and sovereignty; • Promotion of a global environment conducive to agricultural development; • Reduction of food vulnerability and the promotion of sustainable access to food.
	SADC Food Security and Nutrition Strategy (2015 – 2025)	2014	The goal of this Strategy is to significantly reduce food and nutrition insecurity in the Region by 2025. This will be achieved through multiple objectives including (i) Promoting availability of food through improved production, productivity and competitiveness; (ii) Improving access to adequate and appropriate food in terms of quality and quantity; (iii) Improving the utilisation of nutritious, healthy, diverse and safe food for consumption under adequate biological and social environment with proper health care; and (iv) Ensuring stable and sustainable availability, access and utilisation of food. The main guiding principles which will apply are Value addition; Broad participation and consultation; and Subsidiarity This policy lists climate change as one of the cross-cutting factors affecting food security and nutrition in the region. Also recognises the need to identify response strategies for climate change adaptation and mitigation.
	SADC Multi-Country Agricultural Productivity Programme (2008-2023)	2008	The SADC Multi-country Agricultural Productivity Programme is designed as a comprehensive 15-year programme of change, arranged around three 5-year phases. The overall goal is to bring about agricultural technology generation and dissemination, together with strengthening linkages among agricultural institutions in the SADC region to accelerate smallholder productivity. The result will be market- and smallholder-responsive and accessible agricultural technologies which will create agricultural growth and increase incomes especially amongst the rural poor.
			This policy mentions climate change as an important common challenge: 'many countries in the region share similar problems and opportunities. Important common elements include similarities in agro-ecology and climate, the effects of globalization, political and economic liberalization, urbanization and migration, natural disasters and climate change, influences of health (especially HIV/AIDS), 4 biotechnology, and the changing proprietary nature of agricultural technology. Cooperation in some of these key areas can yield significant benefits – as can greater economic integration by taking advantage of natural comparative advantages'.

Sector	Policy/Strategy/Protocol	Date	Description
Agriculture	SADC Multi-Country Agricultural Productivity Programme (2008-2023)	2008	It also mentions climate change as a cross-cutting issue: 'Africa and Southern Africa in particular have not made full use of the opportunity in addressing the issue of climate change and in developing projects that can contribute to the reduction of GHG emission and benefit from investment in environmentally-friendly technology from developed countries under the Clean Development Mechanism (CDM) of the Kyoto Protocol. This would include: establishing the main agricultural and forestry activities and practices and their contribution to GHG emissions, mainstreaming climate change in agricultural R&D projects and programmes and to ensure that new technologies are environmentally friendly, identifying and promoting best practices (for example, more and more research internationally points to the fact that organic, biodynamic, permaculture and related sustainable farming practices help to mitigate and reverse the effects of global climate change). Research should therefore be targeted at finding solutions to the factors that limit the uptake of these practices.
Energy	SADC Protocol on Energy	Entered into force in 1997 V	The SADC Protocol on Energy of 1996 intends to promote the harmonious development of national energy policies and matters of common interest for the balanced and equitable development of energy throughout the SADC Region. The protocol seeks to promote the harmonious development of national energy policies and matters of common interest for the balanced and equitable development of energy throughout the SADC region.
	SADC Energy Cooperation Policy and Strategy	1996	The Strategy seeks to achieve effective power system management; extensive use of hydropower resources; commercialization of public utilities and power interconnections to Improve reliability and security of supply.
	Regional Energy Access Strategy and Action Plan	2010 - 2020	The goals of the SADC Energy Access Strategy are at the strategic level to harness regional energy resources to ensure, through national and regional action, that all the people of the SADC Region have access to adequate, reliable, least cost, environmentally sustainable energy services, and at the operational level that the proportion of people without such access is halved within 10 years for each end use and halved again in successive 5 year periods until there is universal access for all end uses. This policy makes no specific mention of climate change.
	SADC Renewable Energy and Energy Efficiency Strategy and Action Plan (2016-2030)	2017	The Renewable Energy and Energy Efficiency Strategy and Action Plan (REEESAP) aims to provide a framework for SADC Member States to develop their own renewable energy and energy efficiency strategies and action plans, leading to greater uptake of RE resources as well as mobilization of financial resources for the sector. REEESAP seeks to promote coherency and alignment of national, regional and global initiatives, objectives and goals. The strategic objectives include energy security closing the supply demand deficit; access to modern energy services; offsetting the risk of energy imports; mobilizing finance for investment in Renewable Energy and Energy Efficiency (RE/EE) and low carbon economies & climate resilient energy systems. One of the key objectives is: achieve low carbon development paths and climate resilient energy systems in MS and hence the Region.
	SADC's Regional Green Economy Strategy and Action Plan for Sustainable Development	2015	The Regional Green Economy Strategy and Action Plan for Sustainable Development analyses is a framework to guide the integration of resilient economic development, environmental sustainability and poverty eradication for a more sustainable future in the SADC region for green economy policy implementation. The proposed strategy and action plan aim to find and make use of synergies across sectors, identify and avoid potential emerging bottlenecks and side effects, in order to fully harness green economy opportunities. The document will support the integration of Green Economy policy principles into existing national and regional development protocols, policies and strategies which include the RISDP, the SADC Industrialization Strategy and Road Map, the SADC Infrastructure Development Master Plan and the RAP.
Environment	Protocol on Environment for Sustainable Development	2017	The main objectives of this Protocol are to; enhance the protection of the environment in order to contribute to human health, wellbeing and poverty alleviation; promote equitable and sustainable utilisation of natural and cultural resources and the protection of the environment for the benefit of the present and future generations; promote the shared management of trans-boundary environment and natural resources; and promote effective management and response to impacts of climate change and variability. In this regard, the Protocol requires Member States to take measures to address issues of climate change including transboundary considerations, through adopting the necessary legislative and administrative measures to enhance adaptation to the impacts of climate change; take nationally appropriate voluntary climate change mitigation measures; addressing the negative impacts of climate change on, among others, food security and nutrition; water resources; health; economic activities, particularly agriculture, tourism, energy and industrial development, reducing emissions from deforestation and forest degradation; fisheries and coastal management; infrastructure; poverty eradication; and gender equality initiatives. Furthermore, Member States are required to take measures to develop early warning systems and disaster management strategies; and participating in sub-regional and international climate change engagements in order to access the benefits related to technology transfer, financing and capacity building and influence policy and decision-making processes.

Sector	Policy/Strategy/Protocol	Date	Description
Agriculture	SADC Protocol on Environmental Management for Sustainable Development	2014	The Protocol covers a wide range of environmental issues, including climate change. The overall objective of the Protocol is to promote sustainable utilisation and trans-boundary management of the environment, which is of interest to SADC Member States. Specifically, the Protocol seeks to enhance the protection of the environment; promote equitable and sustainable use of natural resources and the environment; promote shared management of trans-boundary environment and natural resources and promote effective management and response to impacts of climate change and variability. In Article 12 the protocol states that parties shall take measures to address issues of climate change including trans-boundary considerations, through: a. adopting the necessary legislative and administrative measures to enhance adaptation, bearing in mind the diverse and gender differentiated levels of vulnerabilities, b. taking nationally appropriate voluntary climate change mitigation measures, c. addressing the negative impact of climate change, d. Food security, water resources, and health, e. Economic activities: particularly agriculture, tourism, energy and industrial development, fisheries and infrastructure, human security, poverty eradication efforts, f. Gender equality initiatives, g. taking measures to develop early warning systems and disaster management strategies and h. participating in the sub-regional and international climate change programmes in order to access the benefits related to technology transfer, financing and capacity building.
Biodiversity	SADC Animal Genetic Resources Conservation and Utilisation Strategy	May 2020	This Strategy is relevant for resilience and agrobiodiversity conservation
Fisheries	Protocol on Fisheries	Entered into force in 2003	One of the main objectives of the Protocol is to prevent the overexploitation of fishery resources in southern Africa. Countries agree to harmonize laws, strengthen cooperation and law enforcement mechanisms to manage fish stocks sustainably.
	SADC Regional Aquaculture Strategy and Action Plan (2016-2026)	February 2016	The vision of the SADC Regional Aquaculture Strategy and Action Plan (RASAP) is for SADC to become a leader of sustainably produced aquaculture products in Africa by 2025, contributing significantly towards economic growth, food security, poverty alleviation and job creation throughout the region. With eight strategic objectives, the purpose of the Strategy is to provide strategic direction for the rapid, environmentally responsible, development of aquaculture in SADC Member States. The Strategy simultaneously also seeks safeguarding the ecological integrity of aquatic ecosystems, conserving common genetic resources and supporting the maintenance of regional aquatic biosecurity and to advance the development of cross border value chains that better enable the utilization of aquatic and human resources within the region.
Forestry	Protocol on Forestry	2002	The Protocol aims to promote the development, conservation, sustainable management and utilization of all types of forest and trees; trade in forest products and achieve effective protection of the environment and safeguard the interests of both the present and future generations. This Protocol makes no mention of climate change.
Wildlife	SADC Protocol on Wildlife Conservation and Law Enforcement	Entry into force, 30 November, 2003	SADC passed its Protocol on Wildlife Conservation and Law Enforcement on 18th August 1999 to establish a common framework for conservation and sustainable use of wildlife in the region as well as assist with the effective enforcement of laws governing those resources. This Protocol makes no mention of climate change.
Industry	SADC Industrial Development Policy Framework	2013	This Policy Framework aims to accelerate the development of regional industrial sector through the diversification of national economies; development of productive capacity; and the creation of employment in order to reduce poverty and set SADC economies on a more sustainable growth path. Climate change is mentioned as a cross-cutting issue as it presents challenges for industrial development, and regional cooperation towards the development of a cleaner and resource efficient industrial environment.

Sector	Policy/Strategy/Protocol	Date	Description
Tourism	Protocol on the Development of Tourism	Signed in 2009	The Protocol on the Development of Tourism establishes tourism as a priority for Southern Africa. The protocol aims to foster the tourism industry for the betterment of livelihoods. The protocol further suggests that Member States improve their quality of service, safety standards, and physical infrastructure as a means of attracting tourists and investment into the region. A key objective of the protocol is to use tourism as a vehicle for sustainable development in the SADC region, including by optimizing resource use and increasing the competitiveness of the tourism sector in an environmentally sustainable manner. This Protocol makes no mention of climate change.
Transport	Protocol on Transport, Communications and Meteorology	Eentered into force in 1998	Central importance is given to infrastructure development and safety. However, reference is made to the need for limiting the environmental impacts of transport.
Water	SADC Regional Water Strategy	2006	The Regional Water Strategy recognizes the central importance of water for the transition towards sustainable development. An entire chapter is dedicated to —Water and Environmental Sustainabilityǁ, including specific strategies on environmental water requirements, EIAs, as well as the harmonization of standards for minimum water quality. Another chapter covers the issue of resilience to natural disasters.
Gender	Protocol on Gender and Development	2008	Recognises that: state parties shall develop policies and strategies, and programmes to address gender issues in climate change

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