



ChronAfrica

Climate change and its effect on food security in Southern Africa

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Abstract

In recent years, the term "climate change" has been widely utilized worldwide. Almost everyone knows or bears an idea of the definition of the phrase in mind. Climate change has become part of the global agenda, being the topic of discussion in the realm of numerous international conferences. Climate change poses a threat to global security as it poses a danger to various aspects of human life. For instance, lives are occasionally lost due to weather events triggered by changing weather conditions, and food scarcity caused by these changing conditions that can limit people's access to food in many ways. One manifestation of climate change is the occurrence of extreme weather events, characterized by a rise in global temperatures, increased frequency of cyclones, floods, and droughts. The objective of this research is to understand what SADC countries are doing at the regional level to mitigate the effects of climate change on food security. While developing the research, documentary and bibliographic techniques are applied. However, secondary sources including the analysis of works carried out by other researchers have allowed a better understanding into the problem and broadened the scope through the provision of answers to the problem scrutinized by the research.

Keywords: Climate change, Africa, SADC, food security, international security

Introduction

To bring up climate change is to discuss a phenomenon that has gained prominence in the international agenda in recent years and that poses, at the same time, a threat to the security of countries in general, as well as the security of individuals in particular. Climate change is widely known as a problem originated owing to human activity. In the last years, the developments in industrialization activities, deforestation, burning of fuels in the factories and many other activities have increased in a large scale, which has negatively contributed to the rise of global emissions leading to climate change.

The Southern African region is considered the southernmost region of Africa, and although it contributes less to global emissions, it is known for being highly vulnerable to climate change-related weather events. In recent years, this region has experienced an increase in climate change-related events, including cyclonic activity, floods,

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droughts, and a reduction of rainfalls. In the SADC region, over the past year, people have experienced all the extreme weather events as mentioned before, and more than 50 million people have been left under the threat of food insecurity due to their exposure or vulnerability to this problem. The frequency of rain has decreased, droughts have persisted for long periods, water resources have become scarcer, and agricultural productivity has declined. With no agricultural production, many people in the region are unable to access food, even when it is available in the market. These are just a few of the various ways that climate change is threatening people in this region.

The climate change-related events mentioned earlier have proven to be a threat to food security in this region, which is highly dependent on agricultural practices for its survival and income. As the majority of the population relies on agriculture for their survival, they have settled their homes in coastal areas. Despite warnings about natural disasters, this population is reluctant to leave their homes and abandon their crops, as these represent their sole guarantee of survival. This research aims to understand what are SADC countries doing at the regional level to mitigate climate change effects on food security. In order to make this research, documentary and bibliographical techniques were used for its materialization. The documentary technique that, through the use of primary sources, greatly favored the development of research insofar as, resorting to the use of policies, international resolutions that ensured a better understanding of the problem in analysis. On the other hand, the bibliographic technique enriched the work because, through the use of research carried out by other researchers, it was possible to carry out a more comprehensive analysis and find the answer to the research questions.

Climate change poses a threat to the food security of regional population as the majority of SADC people depend on rudimentary agricultural practices for their survival and as their source of income as well. Extreme weather events such as cyclonic activity, floods, droughts have been decreasing agricultural productivity and this has put the population on a vulnerable position. This research found that SADC countries have been valuing multilateral approaches to finding a common solution to the threat of climate change on their food security. They are aware that climate change poses a threat to their people and have been developing programs to prevent it from leading to food insecurity. SADC created and adopted a regional platform on the Integrated Early Warning and Early Action System, believed to be crucial in preventing the negative impact of climate change on agricultural productivity. For example, by knowing beforehand, people can better prepare against the effects of natural disasters. On the other hand, they have been investing in crop development programs by adopting crops that are more resistant to droughts, for example.

It is clear that SADC have been actively looking for strategies to reduce its vulnerability against climate change but is also notable that this problem still poses a threat to the food security of regional countries and there is still a long way for the regional countries to ensure that they are less vulnerable to this unchanging reality.

1. Definition of climate change

Climate change indicates lasting changes in weather patterns including shifts in temperatures. These changes can be caused by natural factors or human activity, with the latter emerging as the primary reason for climate change in recent years.¹ The main cause of climate change as mentioned before is considered to be human activities. Destroying forests, farming livestock and usage of fossil fuels (coal, oil and gas) in industry are considered by the European Commission to be the actions with the highest influence on earth's climate.² Climate change can be viewed from various perspectives. It can manifest itself through increasing sea levels, rising temperatures leading to droughts, changing rainfall patterns, and so on. According to the World Bank Climate Change Knowledge Portal,

¹ United Nations (n.d.) "What is Climate Change" <https://www.un.org/en/climatechange/what-is-climate-change>, consulted by 01.01.2024.

² European Commission (n.d.) "Causes of Climate Change" https://climate.ec.europa.eu/climate-change/causes-climate-change_en, consulted by 01.01.2024.

"Climate change is the significant variation of average weather conditions becoming, for example, warmer, wetter, or drier—over several decades or longer. It is the longer-term trend that differentiates climate change from natural weather variability".³

Climate change is a subject that has garnered significant international attention in recent years, recognized as a problem created by humans with far-reaching consequences for human security. In a report by the World Meteorological Organization (WMO) in 2023, climate change is approached as a threat from various perspectives in the scope of this research:⁴

- Firstly, climate change is seen as a threat to human life and livelihoods. The past eight years have been noted as having the highest temperatures, endangering lives globally. Rising temperatures have led to increased frequency and duration of droughts, floods, and heatwaves, affecting tens of millions of people, causing food insecurity, mass migration, and significant economic losses.
- Secondly, climate change is identified as a threat to ecosystems, altering temperature patterns and seasons. An example cited is the early blooming of cherry blossoms in Japan, which, historically tracked since the 9th century, was found to be 1,200 years ahead of schedule in 2021. The report highlights that climate change likely contributed to the population decline of some migratory species, particularly those wintering in sub-Saharan Africa, contributing to ongoing biodiversity loss.
- Thirdly, climate change is recognized as a threat to food security, with floods and droughts negatively impacting land productivity and the global economy. In East Africa, five consecutive years of drought have left approximately 20 million people food insecure. Another example is cited in Pakistan, where heavy rains resulted in around 1,700 deaths and affected approximately 33 million people. These perspectives emphasize the multifaceted nature of the challenges posed by climate change, affecting not only human lives and livelihoods but also ecosystems and global food security.

2. A brief understanding of food security concept

According to the 1996 World Food Summit, "Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life".⁵ From this excerpt, it can be seen that food security refers to the ability of people to access food in quantities that meet their nutritious needs.

The concept of food security can be understood and measured in different perspectives and because of this, to ensure that every people can think of food security at the same way, four dimensions of food security were created and for there to be food security these dimensions should be all meet, they are:⁶

- Food availability-this dimension refers to the capacity of a market (country) to ensure that there will be enough amounts of food and quality food at all times;

³ World Bank Climate Change Knowledge Portal (n.d.) "What is Climate Change" <https://climateknowledgeportal.worldbank.org/overview> \, consulted by 01.01.2024.

⁴ ONU News (2023) "Relatório da ONU revela aumento alarmante nos efeitos da mudança climática" <https://news.un.org/pt/story/2023/04/1813222>, consulted by 05.03.2024.

⁵ World Food Summit cited by FAO "Food security" https://www.fao.org/fileadmin/templates/faoitaly/documents/pdf/pdf_Food_Security_Coept_Note.pdf, consulted by 09.01.2024.

⁶ FAO 2006.

- Food access- if there is availability of food in a market but the people are not able to reach this food then there would be a food insecurity situation. This dimension refers to the capacity of the people to reach necessary food for them to have a good diet and live a healthy life;
- Utilization- individuals should be able to make usage of the food in their position in a healthy way so they can be achieving the nutritional well-being status. For example, if a certain person has food but due to disease or other factors is not able to make usage of that food then it would be a food insecurity situation;
- Stability- if the other conditions are met, but there is no consistency on it; there may be a food insecurity situation. This condition refers to the ability of the market to provide food and the ability of people to reach the food that meets their nutritional needs at all times.

Food security can be understood from various perspectives, beyond the scope of the World Food Summit as discussed earlier. Another variation of this concept is as created by the Food Safety Standard⁷

“Food products can encounter numerous health hazards during their journey through the supply chain, from farm to factory to table. Food safety is about applying safe food handling practices and procedures at every stage of the food production life cycle to reduce these risks and prevent harm to consumers”.

Food security, as defined by OXFAM Brazil, involves safeguarding all dimensions that prevent a situation of hunger. This includes ensuring availability and continuous access to food, meeting nutritional requirements, and maintaining sustainability in production processes. These factors highlight the strong dependence or direct linkage of food security to climate change, soil degradation, water scarcity, pollution, and various other factors.⁸

3. The relationship between climate change and food security

Climate change can affect our lives in different ways, such as through its negative impact on people's health and by challenging their ability to grow food. “Conditions like sea-level rise and saltwater intrusion have advanced to the point where whole communities have had to relocate, and protracted droughts are putting people at risk of famine.”.⁹

The relationship between climate change and food systems moves in two directions based on mutually reinforcing feedback loops. Food systems contribute to changing the climate through greenhouse gas emissions. In turn, climate change impacts food systems, leading to food insecurity and malnutrition.¹⁰ As discussed earlier, climate change encompasses more than just rising global temperatures, incorporating phenomena like storms, prolonged and intensified droughts and floods, and the melting of ice. These changes have significant repercussions on food production and distribution, ultimately impacting people's food security. The close connection between agricultural production and climate implies that alterations in climate conditions such as droughts, floods, and cyclones can have adverse effects on both the quality and quantity of agricultural output. Climate change not only affects the cultivation of crops but also impacts livestock production. For instance, fish migration patterns may shift due to changes in environmental conditions.

Furthermore, climate change doesn't solely influence primary agricultural production; it can also disrupt the processing, manufacturing, and trade of food, thereby affecting overall food availability. The rise in average

⁷ Food Safety Standard (n.d.) Gıda Güvenliği Nedir? <https://www.foodsafely.org/gida-guvenligi/gida-guvenligi-nedir/>, consulted by 06.-3.2024.

⁸ OXFAM Brasil (2021) “Descubra o que é segurança alimentar e qual sua importância” <https://www.oxfam.org.br/blog/descubra-o-que-e-seguranca-alimentar-e-qual-sua-importancia/>, consulted by 06.03.2024.

⁹ United Nations n.d.

¹⁰ World Food Programme, *Climate Change in Southern Africa*, World Food Programme, 2021.

temperatures may heighten hygiene risks in food storage and distribution, while challenges related to water scarcity in food handling and treatment operations could pose new obstacles for quality control and food safety.¹¹

A United Nations agency, the International Fund for Agricultural Development, shared a report on agricultural production in Africa in 2021. It drew attention to the fall in agricultural production in Africa. Angola, Lesotho, Malawi, Mozambique, Rwanda, Uganda, Zambia and Zimbabwe are the countries considered to be more likely to suffer from the loss of agricultural production due to rising temperatures and the consequent reduction in basic products, with a loss of up to 80% expected by 2050. The report used the example of the Angolan province of Namibe, where family millet production is expected to fall by 77%.¹² The effects of climate change can be and are evident in altered rainfall patterns in the southern region of Africa, where there have been periods of severe and long-lasting droughts, affecting hundreds of millions of people. The southern African region is known for having a mostly semi-arid climate, which means that agricultural productivity is low. Climate change and changes in temperature patterns will lead to even lower productivity due to reduced rainfall. On the other hand, temperatures in the region are expected to rise by around 2°C.¹³

Mozambican climatologist Izidine Pinto is one of the authors harboured the report by the United Nations Intergovernmental Panel on Climate Change (IPCC), which, in 2021, issued a warning about climate change. "Heat waves and droughts in the southern African region will become more frequent, and category 4-5 tropical cyclones will increase. These changes will have a negative effect on countries that are generally affected by these phenomena, such as Mozambique. The consequences of the changes and increase in temperatures will be serious, especially given the agricultural and water sectors," said the climatologist.¹⁴

4. Climate Change Impact on Food Security in Southern Africa

The Southern African region is evidence that the effects of climate change will not only be felt by the major emitters of greenhouse gases. Widely known as Southern African Development Community (SADC).¹⁵ The countries in this region are classified as the most vulnerable to climate change effects, yet they are also among the countries with the smallest contributions to global emissions.¹⁶

Climate change has proven to be one of the main challenges to the SADC region development in the last years. This region is in the group of the regions with less contributions to the global emissions with only 1.3% of contribution but on the other hand is more likely to suffer a significant impact due to the weather alterations. Extreme weather events have raged the frequency and duration of floods, cyclones, droughts that not only challenge the survival of the people but also the economic development at the region.¹⁷

¹¹ Food Safety Brazil (2019) "As mudanças climáticas e os impactos na segurança de alimentos" <https://foodsafetybrazil.org/mudancas-climaticas-impactos-na-seguranca-de-alimentos/>, consulted by 07.03.2024.

¹² Land Portal "Mudanças Climáticas Ameaçam Produção Agrícola da África" <https://landportal.org/pt/news/2022/10/mudan%C3%A7as-clim%C3%A1ticas-amea%C3%A7am-produ%C3%A7%C3%A3o-agr%C3%ADcola-da-%C3%A1frica>, consulted by 16.01.2024.

¹³ Land Portal 2022.

¹⁴ DW "Mudanças Climáticas e as Desigualdades em África" <https://www.dw.com/pt-002/mudan%C3%A7as-clim%C3%A1ticas-est%C3%A3o-a-exacerbar-as-desigualdades-em-%C3%A1frica-diz-analista/a-58866560>, consulted by 22.01.2024.

¹⁵ SADC is composed by 16 member-states and they are: Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, United Republic Tanzania, Zambia and Zimbabwe (SADC, n.d.).

¹⁶ SADC "SADC Histórias de Sucesso" https://www.sadc.int/sites/default/files/2021-08/SADC_Success_Stories_Vol._2__A4__Portuguese.pdf, consulted by 22.01.2024

¹⁷ David Lesolle, "Documento de Política sobre as Alterações Climáticas aa SADC: Avaliação das Opções de Políticas para os Estados Membros da SADC" https://www.sadc.int/sites/default/files/2021-08/SADC_Policy_Paper_Climate_Change_PT_1.pdf, consulted by 15.01.2024.

As stated before, climate change represents a huge threat to SADC goals for regional economic development. "Increased frequency of floods, cyclones, and droughts may damage infrastructure, destroy agricultural crops, disrupt livelihoods, and cause loss of life". One of the main problems is the fact that the ability to adapt to the climate change and its consequences or manifestation differs among the region's countries.¹⁸ The Southern African region is a region composed by people that mostly rely on agriculture for their survival. Almost 70% of the regional population find its source of income and employment in agricultural activities (SADC, 2017). Due to climate change and the rising temperatures, the majority of the regional population is under a threat of food insecurity originated by the reduction of productivity. Since this families rely on agriculture for survival and income, when their production fail, they cannot have access to food even if there is food available at the market.¹⁹

Increasing weathers in the SADC can lead to more heat at the natural ecosystems and agricultural crops and this can have a negative impact on the region's productivity for both natural pasture lands and pasture areas and food production. Global warming is creating major challenges for the SADC region for the agricultural, water, health and other key socio-economic sectors. At the same time the region has been assisting a rising in the occurrence of cyclonic activity in the southwestern region of the Indian Ocean. Cyclonic activity in the region leads to the increase of extreme floods that on its turn leads to economic losses and destruction of infrastructures, cultures and means of survival (sources of income) especially in the eastern countries of SADC. 3 major cyclones affected the SADC region in the last years and they are tropical cyclones Idai, Kenneth and Eloise – that hit Mozambique, Malawi, Zimbabwe, Eswatini, South Africa and Madagascar.²⁰

"In recent years, the frequency and intensity of cyclonic activity have not only claimed human lives but have also destroyed the sources of income for more than 700 thousand families in the region. A total of 314,369 people have been affected by the storm in Mozambique, the worst-hit country where Eloise made landfall on January 23, 2021, from the Indian Ocean (DW, 2021). More than 2.6 million people have been affected by Cyclone Idai, considered one of the worst ever to hit the region. Prior to Cyclone Idai, Zimbabwe had been severely inflicted by a severe drought that was interrupted by the intense floods caused by this cyclone. The occurrence of cyclonic activity only worsened the situation as it killed the few crops that had developed by that time in the country, leaving thousands of families without food".²¹

On the grounds of climate change, the region has also been experiencing severe droughts. Cape Town in South Africa is one of the best examples of severe droughts in the region. This city had experienced droughts for three years up to 2018 that led to an unprecedented water crisis. Cape Town was on the verge of becoming the first one of the biggest cities in the world to run out of water. "The South African government then established Day Zero for April 16, 2018. On this date, all water distribution would be interrupted to homes and businesses, with the exception of hospitals, schools, and a few institutions essential to the functioning of the city. Following this announcement, inhabitants would have to fetch water daily from 200 stations spread across the municipality, where they could collect a maximum of 25 liters." The Day Zero strategy wasn't applied; instead, two other strategies were outlined: diversifying water supply and reducing water demand.²²

Water resources are one of the resources most intensely affected by climate change in the region. This factor has been affecting the availability of water in the region as well as increasing the competition over this scarce

¹⁸ SADC "Climate Change adaptation" <https://www.sadc.int/pillars/climate-change-adaptation>, consulted by 09.01.2024.

¹⁹ Serigne, T. Kandji1. -Louis, Verchot1. -Jens, Mackensen2, *Climate Change Climate and Variability in Southern Africa: Impacts and Adaptation in the Agricultural Sector*, Word Agroforestry Centre (ICRAF) and 2 United Nations Environment Programme (UNEP), 2006, p.3-4.

²⁰ David Lesolle, 2012.

²¹ Care, "O ciclone Idai é mais um Alerta Sobre Mudanças Climáticas" <https://www.care.org/pt/news-and-stories/ideas/cyclone-idai-is-yet-another-wake-up-call-on-climate-change/>, consulted by 24.01.2024.

²² Fernanda Maria, "Cape Town: O Dia Zero para o Colapso Hídrico Antlantico" <https://atlanticoonline.com/cidade-do-cabo-o-dia-zero-para-o-colapso-hidrico/>, consulted by 15.01.2024.

resource. To face this challenge, the SADC Secretariat is creating a Climate Change Adaptation (CCA) Strategy for the Water Sector whose main objective is to reduce the maximum possible the effects of climate change by creating optional water resources development and management in the region. It is important to note that water scarcity can impact many sectors of the region economy such as the energy, agriculture and health sectors.²³

Simultaneously, the SADC region is highly sensitive to droughts caused by the El Niño phenomenon. This is a situation in which temperatures in the Pacific are warmer than usual and the phenomenon lasts from months to years. At the same time, there is a weakening of trade winds and a reduction resulting from the resurgence of colder waters on the sea surface close to South America. This phenomenon led to the drought experienced between 2015-2016 in Kruger Park, in South Africa, further leading to the drying up of water wells and the death of animals (MozAgri, 2021). On the other hand, El Niño caused approximately 32 million people to face food insecurity in the region after being hit by this event between 2015/2016, agricultural production had dropped to the point that 1 in every 10 people in the region was considered to be facing food insecurity. South Africa, Malawi and Zimbabwe were the ones with the highest rate of people suffering from food insecurity.²⁴ A higher part of the regional population solely depends on rain to be able to produce. Most of the regional population rely on the traditional agriculture techniques, lacking access to modern irrigation systems, machines and fertilizers that would play a huge role in reducing their vulnerability to climate change effects.²⁵

As seen before, SADC is a region where agriculture, commercial activities and tourism are in the center of the sources of income and food security as well with agriculture being the main source of income for the families in the region from one side and, on the other hand, agriculture is also the activity considered to be threatened the most with climate change. Climate change and global warming have changed a lot the quality of the land used for crop production what has led also to a reduction of the productivity in the region. At the same time, "as global warming and climate change deteriorate the natural environment and the quality of natural grazing land deteriorates, this phenomenon will have a negative impact on wildlife as a basic resource for tourism in SADC".²⁶

SADC's Director of Food, Agriculture, and Natural Resources shared that around 57 million people are food and nutrition insecure in the region, a fact that, among other factors, is influenced by climate change.²⁷

5. SADC Approaches Addressing Climate Change Effects on Food Security

At the international level, SADC countries are actively participating in international forums created to help mitigate the effects of climate change on people's lives. Examples include the Sustainable Development Goals (SDGs), the UN Framework Convention on Climate Change, and the Paris Agreement (United Nations: n/d). The participation of these countries in international forums demonstrates their recognition of the importance of cooperation between states in efforts to reduce the effects of climate change and protect both people's lives and the ecosystem. The SADC Secretariat has been working on the development of a Climate Change Adaptation (CCA) Strategy for the Water Sector.²⁸

²³ SADC n.d.

²⁴ Gisele Lobato, "África Austral Despede-se do El Niño sob Ameaça de Fome Histórica" África Austral despede-se do "El Niño" sob ameaça de fome histórica | Longform Domingo | PÚBLICO (publico.pt), consulted by 24.01.2024.

²⁵ Gisele Lobato 2016.

²⁶ David Lesolle, 2012.

²⁷ O País, "Insegurança Alimentar Afeta 150 Milhões de Pessoas na SADC" <https://opais.co.mz/inseguranca-alimentar-afecta-150-milhoes-de-pessoas-na-sadc/>, consulted by 24.01.2024.

²⁸ SADC n.d.

SADC member states are working on the creation of a regional program on climate change to face this threat to its regional security.²⁹

*“The SADC Secretariat, in collaboration with the Common Market for Eastern and Southern Africa (COMESA) and the East African Community (EAC), is facilitating the implementation of a Tripartite Programme on Climate Change. This program is jointly funded by the Norwegian Government through the Norwegian Ministry of Foreign Affairs, the European Union Commission (EUC), and the UK Department for International Development (DFID). The program “aims to inject Africa’s Unified Position on Climate Change into the post-2012 United Nations Framework Convention on Climate Change (UNFCCC) global agreement so as to unlock resources for promoting strategic interventions that sustain productivity and livelihood improvements for millions of climate-vulnerable people in the region”.*³⁰

By June 2021, Mozambique government in the person of the environment minister Ivete Maibaze, had announced an investment of 11 million dollars for climate change mitigation plan within the scope of a SADC program that adopted an action plan that will be running from 2022 to 2025. In the SADC region, Mozambique is especially vulnerable to the effects of Climate Change due to its location in the inter-tropical convergence zone and downstream of shared river basins, a long coastline and the existence of extensive areas with altitudes below the current sea level and, around 60% of the Mozambican population depends on fishing for survival.³¹

By August 2022, SADC countries had announced the adoption of a regional platform on the Integrated Early Warning and Early Action System, believed to be helpful in mitigating the effects of extreme weather events such as cyclones and floods. The early warning system is considered a strong ally in reducing human, environmental, and economic damage caused by extreme weather events. The Minister of Transport and Communications of Mozambique, Mateus Magala, announced in 2022 at the SADC meeting that, with financing from the African Bank, a very large radar will be installed in Beira. This radar is expected to increase the capacity to mitigate extreme weather events in the SADC region and in Mozambique, as it has the capacity to reach 400 km.³²

In 2022, Maputo, the Mozambican capital city, hosted a regional event aimed at discussing strategies to reduce the effects of climate change in the region. The meeting focused on devising better warning systems to minimize destruction caused by extreme weather events. United Nations agencies and regional partners also participated in this meeting, where the Maputo Declaration on regional cooperation for disaster relief was adopted (*Declaração de Maputo sobre a Cooperação Regional para Aliviar Catástrofes*). This is considered one of the most important steps taken by SADC countries to combat climate change, as it is believed that early warning systems can help reduce the negative impacts of climate change on people's lives.³³

International organizations have been actively supporting the region into fighting or mitigating climate change effects. Foreign organizations as the United Nations and CARE International have been providing financial aid and support to regional countries during emergency situations.³⁴

²⁹ SADC n.d.

³⁰ SADC n.d.

³¹ Voa Português (2021) “Moçambique adota plano de mitigação de mudanças climáticas, diz ministra do Ambiente” <https://www.voaportugues.com/a/mo%C3%A7ambique-adota-plano-de-mitiga%C3%A7%C3%A3o-de-mudan%C3%A7as-clim%C3%A1ticas-diz-ministra-do-ambiente/5922732.html>, consulted by 16.01.2024.

³² Amandio Borges, “SADC vai Passar a Partilhar Informação Meteorológica” <https://opais.co.mz/sadc-vai-passar-a-partilhar-informacao-meteorologica/>, consulted by 16.01.2024.

³³ ONU News, “Maputo Sediou Etapa Regional para Melhorar Sistemas de Aviso de Desastres” <https://news.un.org/pt/story/2022/09/1800601>, consulted by 22.01.2024.

³⁴ CARE 2019.

SADC addresses the issues of food security through the Regional Indicative Strategic Development Plan (RISDP 2020–2030), the Regional Agriculture Policy (RAP) operationalized through the Regional Agricultural Investment Plan (RAIP) (2017–2022), and the Regional Food and Nutrition Security Strategy (FNSS) (2015–2025).³⁵

SADC has implemented various programs under the Food, Agriculture, and Natural Resources (FANR) Directorate, including:³⁶

- Agricultural Information Management System (AIMS);
- Crop Development Programme;
- Livestock Development Programme.

These programs were designed to contribute to the region's overall food security objectives and promote sustainable agricultural practices. The AIMS system serves as a warning system against imminent disasters, providing essential information for monitoring and food security planning among other functions. Through this tool or system, regional countries can early prepare and take the necessary measures to reduce the negative impact of impending disasters. The system provides necessary data for policymakers effective in the decision-making process.³⁷

Under its Crop Development Programme, SADC member states are engaged in research and development of crops that are resilient to droughts, such as maize, cassava, and other crops. This initiative aims to enhance agricultural productivity and food security in the face of changing climate conditions.

Conclusion

It is evident that the rising global emissions are threatening human lives in different ways and one of the most discussed in the last year is the food security. At one side, human activity of deforestation, industrialization and many other practices are increasing global emissions that lead to climate change and, on its turn, climate change is also threatening human lives. Climate change has proven to be a global threat but, one of the most vulnerable regions, as globally recognized, is the SADC region on which, extreme weather events in the last year already led to a rise on intensity and frequency of cyclonic activity, floods, more durable droughts that has also arisen catastrophic situations as the day zero phenomenon in South Africa.

It is important to notice that SADC countries are aware of this problem or threat to their security and have been putting together efforts to find a solution for this common threat by internationally participating in forums such as the Sustainable Development Goals (SDG's) as well as the UN Framework Convention on Climate Change and the Paris Agreement. Moreover, efforts have been exerted to adapting and reducing the negative impacts of climate change on the region. For example, Maputo Declaration on regional cooperation for disaster relief has been adopted, SADC has had a Food, Agriculture and Natural Resources (FANR) Directorate and many more entities that are being created as well as strategies are being developed to reduce the region's vulnerability to climate change and ensure that its population will not face a food insecurity crisis by increasing its adaptability and resilience against this phenomenon.

³⁵ SADC, "Food Security" <https://www.sadc.int/pillars/food-security#:~:text=SADC%20Action%20on%20Food%20Security&text=These%20include%20the%20operation%20of,Livestock%20Development%20Programme>, consulted by 24.01.2024.

³⁶ SADC n.d.

³⁷ SADC n.d.

Measures are being taken by the states; however, climate change problem is considered to be far from being controlled as it depends not only on the region but there should be a global action to reduce the world's submission to this problem. This fact is sustained by the fact that SADC is suffering a lot from climate change effects even being one of the regions with the smallest contributions to global emissions, this means that not only SADC should take action, but the countries in the world should be united to find solutions that could really work against this threat to their security and this has proven to be a challenge yet to be solved.

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