Climate Justice 11

Flooding in Mauritius. Photo courtesy of La Sentinelle.

KEY POINTS

- The temperature in Southern Africa has increased significantly over the last century, at a rate of 0.4°C per decade between 1961 and 2014[1].
- The Southern African region is vulnerable to the impact of climate change due to high levels of poverty, high pre-existing disease burden, fragmented health services; water and food insecurity.
- Women are particularly affected by climate change as principal caregivers and food providers for families and communities. Climate change impacts directly on their sexual and reproductive rights (SRHR). Women constitute the majority of those affected by the climate crisis and of those with the least resources for climate adaption.
- Women's employment in the agricultural labour force ranges from 4% in Mauritius to 82% in Malawi. Ten Southern African Development Community (SADC) countries exceed the global average of 25% women in agriculture. In seven of these countries women outnumber men in the sector, making it one of the most important sectors for women's employment[2].
- Food insecurity is one of the biggest threats facing SADC countries because of climate change. In 2018, more than half of the population in nine SADC countries experienced moderate or severe insecurity[3].
- Malnourishment decreased globally from 10% in 2010 to 9% in 2018 but increased in seven SADC countries in the same period.
- There has been an increase in access to clean cooking fuels and technology in four SADC countries (Mauritius, Seychelles, South Africa and Botswana). But only half the populations of these countries have access to clean cooking fuels and technology.
- No substantial studies assessing the association between climate change and health have been conducted in the SADC region. This points to the need for evidence and data gathering. Any studies on the health impacts of climate change should specifically address SRHR.

1 Davis-Reddy, C.L. and Vincent, K. 2017: Climate Risk and Vulnerability: A Handbook for Southern Africa (2nd Ed), CSIR, Pretoria, South Africa.
2 World Bank data, https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=AO-BW-KM-CD-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ&view=chart accessed 2 September 2021
3 World Bank Data, Food Security Portal https://data.worldbank.org/indicator/SN.ITK.MSFI.ZS?locations=AO-BW-KM-CD-SZ-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZW-ZM-LS, accessed 2 September 2021

Introduction

Climate change is the biggest existential crisis of our time. According to the latest report by Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)[4] the evidence is irrefutable: global heating is affecting every region and climate system on Earth. The report provides new estimates on the likelihood of crossing the global warming level of 1.5°C in the next decades. It finds that unless there are immediate, rapid and large-scale reductions in greenhouse gas emissions, limiting warming to close to 1.5°C or even 2°C will be beyond reach. The only way to avoid this threshold is by pursuing the most ambitious path.[5]

The climate crisis is just another manifestation of global inequality. The richest 1% are responsible for 15% of cumulative emissions. The countries that have contributed least to the climate crisis are most severely affected by its impacts. They also have most limited access to resources to adapt. The global average amount of CO2 emissions per person was five metric tons in 2014. This ranges from 15.5 metric tons in North America in 2016 to just 0.8 metric tons in Sub-Saharan Africa and 1.4 metric tons in Pacific Island small states. Major differences also exist in levels of greenhouse gas emissions among individuals. Between 1990 and 2015, the poorest half of the world's population emitted 7% and the richest 10% emitted 52% of all carbon emissions.[6]

Gender equality, SRHR and climate change are inextricably linked. Climate change is increasing social, economic and gender inequalities. As global temperatures rise, extreme weather events like floods, droughts, and heatwaves threaten the health and rights of girls and women. In turn, gender, sexuality, age, wealth, indigeneity, and race are determining factors in the vulnerability to climate change.[7] Climate justice, which took a backseat at the height of the COVID-19 outbreak, is back squarely on the agenda. It requires the same urgent action as that taken to curb COVID-19.

Women walk long distances to collect water in Madagascar, where almost half of the country does not have access to clean water.

Photo: Zotonantenaina Razanadratefa

[4] Intergovernmental Panel on Climate Change (IPCC), The Working Group I report is the first instalment of the IPCC's Sixth Assessment Report (AR6), which will be completed in 2022.
[5] https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/ accessed 4 September 2021
[6] Ibid
[7] International Planned Parenthood Federation (IPPF), Position paper: The climate crisis and sexual and reproductive health and rights, January 2021, pp 5
Women Deliver, The link between climate change and sexual and reproductive health and rights: An evidence review, January 2021

Table 11.1: Key climate justice indicators

INDICATORS	Angola	Botswana	Comoros	DRC	Eswatini	Lesotho	Madagascar	Malawi	Mauritius	Mozambique	Namibia	Seychelles	South Africa	Tanzania	Zambia	Zimbabwe
National adaption Plans submitted to UNFCCC[8]	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
National Adaption Programme of Action	2011	No	No	2006	No	2007	2006	2006	No	2008	No	No	2018 (draft)	2007	2007	2019
Country has signed and ratified the global climate change treaty (Paris Agreement)[9]	2016 (signed but not ratified)	Signed and ratified in 2016	Signed and ratified in 2016	Signed in 2016, ratified in 2017	Signed and ratified in 2016	Signed and ratified in 2016	Signed in 2016, ratified in 2017	Signed in and ratified in 2016	Signed and ratified in 2016	Signed in 2016, ratified in 2018	Signed and ratified in 2016	Signed and ratified in 2016	Signed and ratified in 2016	Signed in 2016, ratified in 2018	Signed and ratified in 2016	Signed in 2016, ratified in 2017
Number of National climate change policies/guidelines[10]	Nine (2008, 2x2010, 2x2012, 2x2013, 2x2014)	Two (both of 2009)	No data	Four (2 of 2011 and 2014)	No data	No data	Three (2003, 2010, 2013)	No data	No data	11 (1995, 4x2009, 3x2011, 2x2013, 2014)	No data	No data	Four (2008, 2009, 2010, 2011)	Five (2003, 2005, 2012, 2013, 2014)	No data	Five (2003, 2006, 2x2011, 2012)
Prevalence of moderate or severe food insecurity in the population (%)[11]	67	67	No data	No data	63	50	No data	82	21	68	56	14	43	55	No data	67
Prevalence of undernourishment (% of population)[12]	19	No	No data	No data	17	33	42	19	5	33	15	5	6	25	No data	No data
Access to electricity (%)[13]	45.7	data	84	19	77.2	44.6	26.9	11.2	100	29.6	55.2	100	85	37.7	43	41
Access to clean fossil fuels and technology for cooking[14]	48.1	70.2 64.1	9.3	4	49.7	35.6	0.9	2.5	93.3	3.7	42.2	90.4	84.8	2.2	16.4	29.1
Employment in agriculture, female (% of female employment)[15]	75	15	32	72	10	40	60	82	4	80	20	4	4	67	55	69

Source: Various, Gender Links, 2021.

Table 11.1 Summarises the nine climate justice indicators discussed in this chapter. It shows that:

- No country in the SADC region has submitted its National adaption Plan to the UNFCCC.
- All SADC countries, expect Angola, have signed and ratified the global climate change treaty (Paris Agreement). Angola has signed but not yet ratified.
- More than half of the population in nine SADC countries experience moderate or severe insecurity.
- In only two countries do the entire population have access to electricity, and in nine countries less than half the population has access to electricity.
- Less than half the populations in 12 SADC countries have access to clean fuels and technology for cooking.
- The agriculture sector is the main employer of women in Angola, DRC, Madagascar, Malawi, Mozambique, Tanzania, Zambia and Zimbabwe.

[8] UNFCCC data https://www4.unfccc.int/sites/NAPC/Pages/national-adaptation-plans.aspx
[9] UNFCC Agreement signatories, accessed from https://en.wikipedia.org/wiki/List_of_parties_to_the_Paris_Agreement#Signatories on 11 July 2020
[10] UNFCC Country Profiles , https://www4.unfccc.int/sites/NAPC/Pages/NationalPolicies.aspx
[11] World Bank Data, Food Security Portal https://data.worldbank.org/indicator/SN.ITK.MSFI.ZS?locations=AO-BW-KM-CD-SZ-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZW-ZM-LS, accessed 2 September 2021
[12] World Bank data https://data.worldbank.org/indicator/SN.ITK.DEFC.ZS?locations=AO-BW-KM-CD-SZ-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZW-ZM-LS accessed 2 September 2021
[13] World Bank Data, Access to Electricity, https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=SC-MU-MZ-KM-AO-BW-NA-MW-MG-CD-SZ-LS-ZA-ZM-ZW accessed 1 September 2021
[14] World Bank Data, Access to Clean cooking fuel and technology https://data.worldbank.org/indicator/EG.CFT.ACCS.ZS?locations=AO-BW-CD-KM-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZM-ZW accessed 3 September 2021
[15] World Bank data, https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=AO-BW-KM-CD-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ&view=chart accessed 2 September 2021

COVID-19 and Climate justice

Global inequality is also playing out in the parallel COVID-19 crisis. By 5 October 2021 just five percent of the African population had been fully vaccinated, compared to 34% globally and 63% and 48% of the European Union and North American populations respectively[16]. Countries in the global north have already started administering booster shots to their populations while the most vulnerable in Africa have not yet received their first shot.

COVID-19 has already claimed the lives of 4.6 million lives worldwide since the start of the pandemic[17]. Climate change is expected to cause around 250,000 additional deaths annually between 2030 and 2050. Both crises are the result of human behaviour.[18]

COVID is known to impact particularly the elderly and those with underlying health conditions, causing severe respiratory disease. Climate change affects air quality, drinking water, food supply and shelter - all important for good health. Both crises impact women disproportionately as primary caregivers.

At the start of the pandemic there were encouraging outcomes due to the lockdown restrictions to stem the spread of the disease. Improvements in air quality because of reduced air travel were a short lived reprieve. Now we face a new crisis, in COVID-19 medical waste management.

"Recent studies estimate that we use an astounding 129 billion face masks globally every month -- that is 3 million a minute. Most of them are disposable face masks made from plastic microfibers." [19] This presents an immediate health risk and a potential environmental catastrophe. Massive production of mostly single use PPE for the world has led to waste being produced that once used should be treated as infectious or offensive waste. Disposal should be handled in a way that prevents the transmission of infectious disease to the wider population. However, there are no international or national strategies to address this as yet.

An estimated three million masks are discarded globally every minute.
Photo courtesy of Ashifa Kassam, The Guardian

There are also clear parallels between water scarcity as a result to climate change and the increased need for improved of water and sanitation services to curb the spread of COVID-19. Already scare water resources are going to become even scarcer.

This chapter seeks to draw the links between SRHR, the climate crisis and COVID-19. There is still much work that needs to be done to strengthen the evidence base on the interlinkages between SRHR and the climate crisis.

[16] Oure World Data, https://github.com/owid/covid-19-data/tree/master/public/data accessed 5 October 2021
[17] https://www.news-medical.net/health/Climate-Change-and-COVID-19.aspx
[18] The World Health Organisation, Climate change and health, https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health accessed 13 September 2021
[19] Science Daily, Face masks and the environment: Preventing the next plastic problem, https://www.sciencedaily.com/releases/2021/03/210310122431.htm accessed 9 September 2021

Policy framework

Gender aware climate change policies

Article 31, 1a: State parties shall develop policies, strategies, and programmes to address the gender issues in climate change in accordance with the SADC Protocol on Environment and Sustainable Development.

Article 20.2 of the Protocol on Environmental Management for Sustainable Development: State parties shall undertake gender analysis and gender mainstreaming of all environmental management, climate change and sustainable development policies, programmes, projects and budgets.

International frameworks on climate change

Despite the international mechanisms and frameworks for addressing climate change over more than 25 years, we are still heading towards a crisis referred to by UN Secretary-General Antonio Guterres as a "code red for humanity".

United Nations Framework Convention on Climate Change (1992) UNFCCC provides a framework for climate action but does not contain specific mitigation obligations. Since 1992, the Conference of the Parties (COP) has met annually to implement and further develop the international climate regime.

International Conference on Population and Development in 1994 was a defining moment for sexual and reproductive health and rights. It marked an important shift away from the population-focused objectives of the preceding decades towards recognition of sexual and reproductive health and rights as a human rights issue.[20] The Programme of Action adopted at the Conference defines reproductive rights as "rest[ing] on the recognition of the basic right of all couples and individuals to decide freely and responsibly the number, spacing and timing of their children and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health" and as also including the "right to make decisions concerning reproduction free of discrimination, coercion and violence, as expressed in human rights documents."[21]

The Paris Agreement adopted in December 2015 at COP 21 a legally binding agreement adopted under the UN Framework Convention on Climate Change that sets a target of keeping the rise in global temperature in the 21st century well below 2°C above pre-industrial levels and to pursue efforts to limit it further to 1.5°C. It also sets "a global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development" and calls on developed country parties to provide financial resources to assist developing country parties with regard to both mitigation and adaptation efforts. It highlights that parties "should, when taking action to address climate

[20] Pizzarossa, LB (2018) Here to Stay: The Evolution of Sexual and Reproductive Health and Rights in International Human Rights Law. Laws 2018; 7, 3, p.29.
[21] UNFPA (2014) Programme of Action of the International Conference on Population and Development - 20th Anniversary Edition.

change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity."[22]

The 2030 Agenda for Sustainable Development adopted in 2015, sets 17 goals and targets across social, economic and environmental areas of sustainable development. Sustainable Development Goals (SDG 13) is focused on climate change and calls for urgent action to combat climate change and its impacts, including through a strengthening of resilience and adaptive capacity. Goals on SRHR are covered in goal three on good health and wellbeing.

The Sendai Framework for Disaster Risk Reduction 2015-2030 includes access to sexual and reproductive health services among measures highlighted as important to enhancing resilience and to empowering people disproportionately affected by disasters.[23]

The ***New Urban Agenda, adopted in 2016***, points to threats to cities and human settlements from climate change and commits to promotion of universal access to sexual and reproductive healthcare services with a view to fostering healthy societies.[24]

Regional strategies and policies

SADC has a range of instruments to guide States in addressing climate change at the country level, though it is worrying that these are dated, with nothing more recent than 2015.

- The ***SADC Policy Paper on Climate Change (2011)*** highlights the current and projected impacts of climate change on the region and suggests possible adaptation options.
- The ***SADC Climate Change Adaptation Strategy (2011)*** recognises that water issues will impact a range of sectors, including energy, health and agriculture. Adaptation measures identified are water governance and management and infrastructure development.
- The ***Disaster Risk Reduction Strategic Plan (2006-10)*** sets out the strategic direction to achieve the long-term goal of building resilience of SADC nations and their communities.
- The ***SADC Climate Change Strategy and Action Plan (CCSAP) (2015)*** is structured to be a 25-year strategic document with five-year review planning cycles and considers Science, knowledge and practice; Local ownership; Capacity Building; Balanced approach to adaptation and mitigation; Alignment and integration; Gender mainstreaming; Communication, advocacy and awareness rising; and Parity as its guiding principles."[25] The strategy takes cognisance for the need of enhanced adaptation to the impacts of climate change bearing in mind the diverse and gender differentiated levels of vulnerabilities that are more pressing for the region.[26]
- The ***Framework of Sub-Regional Climate Programs (2010)***, developed under the African Ministerial Conference on the Environment (AMCEN), maps programs and actors working on climate change adaptation in Southern Africa and identifies gaps or focus areas that are not being addressed in terms of adaptation.

There is some reference to health impacts of climate change but these are limited and none of these documents make the link between climate change and the impacts on SRHR.

[22] United Nations (2015) Paris Agreement. Available at: https://unfccc.int/files/essential_background/ convention/application/pdf/english_paris_agreement.pdf.
[23] United Nations (2015) Sendai Framework for Disaster Risk Reduction 2015-2030. Available at: https://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf.
[24] See United Nations (2016) New Urban Agenda. Available at: http://habitat3.org/wp-content/uploads/ NUA-English.pdf.
[25] SADC Climate Change strategy and action plan (CCSAP), pp 4
[26] SADC CCSAP, p12

National

Under the UNFCC countries are required to submit regular National Communication on climate change.

COP, in 2001, established the least developed countries (LDC) work programme, that included the **National Adaptation Programmes of Action (NAPAs)**, to support countries to address the challenge of climate change given their particular vulnerability providing a process to identify priority activities that respond to their urgent and immediate needs with regard to adaptation to climate change.

Table 11.2: SADC Countries national communication and NAPA submission

Country	National Communication	National Adaptation Programme of Action (NAPA)
Angola	2012	2011
Botswana	2011, 2019	not available
Comoros		not available
DRC	2009, 2015	2006
Eswatini	2016	Not available
Lesotho	2001, 2013	2007
Madagascar	2004, 2010	2006
Mauritius		not available
Malawi	2002, 2011	2006
Mozambique	2006	2008
Namibia	2002, 2015, 2020	not available
Seychelles		not available
South Africa	2011, 2018	2018 (draft)
Tanzania	2014	2007
Zambia	2002, 2013	2007
Zimbabwe	2013, 2017	2019

Source: USAID, Regional Factsheet, Climate Risk Profile Southern Africa, 2016.

Table 11.2 shows that all countries except Comoros, Mauritius and Seychelles have submitted at least one communication to the UNFCC. These countries are also three of the five countries (Botswana, Comoros, Eswatini, Mauritius, Namibia and Seychelles that have not developed or submitted a NAPA. It is worrying that the three small island states have not developed adaption strategies or programmes of action considering their particular vulnerability to climate change.

An overview of health considerations in the National Adaptation Programmes of Action for climate change in least-developed countries and small island states found that health was not seen as a priority, as most activities focused on biodiversity and agricultural activities. Very few institutions specialising in climate change and health were identified in the SADC region.[27] In addition to regional strategies, several member countries have identified other priorities in national strategies and plans.

[27] Young T, Tucker T, Galloway M, Manyike P, Chapman A, Myers J, Climate change and health in SADC region: Review of the current state of knowledge, 3 September 2010

Climate change in Southern Africa

The Southern African region is vulnerable to the impact of climate change due to high levels of poverty, high pre-existing disease burden, fragmented health services, and water and food insecurity.[28]

Southern Africa has been significantly warming over the last century, and trend analysis of the temperatures across the region indicate that temperatures have increased, with more rapid increases in minimum temperatures (1-1.5°C on average), especially in the interior regions (1.6-2°C on average) or a rate of 0.4 °C per decade between 1961 and 2014.[29] There has been reduced rainfall and more extreme weather events such as floods and cyclones.

Climate extremes are a major impediment to resilience in Southern Africa, where livelihoods and economies are highly sensitive to weather fluctuations. The primary source of income for the region's rural population is agriculture, much of it rainfed and allocated to cereal production.[30] African women play a central role in the continent's agriculture sector. As the backbone of the sector they represent 52% of the total population in the sector and are responsible for approximately 50% of the agricultural labour on farms in Sub-Saharan Africa. They also produce 60% to 80% of the continent's food yet they own just 10% of all agricultural land and just 2% of land rights.[31]

Changing climate patterns including increasing temperatures and increased intensity, frequency and duration of extreme events pose a great threat to agricultural sector. Some of the potential impacts on the sector include crop failure and reduced yield; more conducive environments for pests and pathogens, changes in areas suitable for agriculture and or crops, changes to access in food and increase in price volatility of food imports and increased costs.

Former Councilor Maneo Tsoho weeding her garden in Lesotho.
Photo: Ntolo Lekau

Women are therefore most affected by food insecurity, as those primarily responsible for the nutritional needs of their families and communities, from growing crops to putting food on the table. Food insecurity also negatively impacts women's reproductive health from pregnancy to birthing.

Changing temperature and rainfall patterns are also likely to exacerbate multiple negative health outcomes, reversing the progress made in the region over the last 10 years. The region faces a heavy disease burden largely due to poor waste management practices, inadequate drinking water and sanitation, limited access to health care facilities, scarce financial resources.[32] More frequent extreme rainfall and flooding could lead to increased incidences of malaria and waterborne diseases adversely affecting women's maternal health.

No substantial studies assessing the association between climate change and health in the SADC region have been conducted. Research has focused on infectious diseases - particularly malaria - and little work had been done on attributing disease burden to climate change and evaluating strategies to adapt to climate change.[33]

[28] Ibid
[29] WFP, Climate change in Southern Africa, June 2021
[30] USAID, Regional Factsheet, Climate Risk Profile Southern Africa, 2016
[31] Bongiwe Njob, Susan Kaaria , FAO, 'Women and AgricultureThe Untapped Opportunity in the Wave of Transformation' Background paper presented at the conferec, 'Feeding Africa' 21-23 October 2015.
[32] USAID, Regional Factsheet, Climate Risk Profile Southern Africa, 2016
[33] Young T, Tucker T, Galloway M, Manyike P, Chapman A, Myers J, Climate change and health in SADC region: Review of the current state of knowledge, 3 September 2010

Several lasting impacts of the 27-year civil war have increased **Angola**'s vulnerability to the effects of climate change. While historically data is limited due to the destruction of weather station makes it difficult to predict climate variability, recent cycles of drought and floods in the south have caused an estimated $242.5 million in agricultural losses.

Food insecurity has increased since people left their farms and moved into cities during the war, with devastating effects on the agricultural sector. Small holder farmers comprise 90% of the sector, primarily through subsistence, rainfed cultivation. Despite the fertile soil, just ten percent of the arable land is cultivated. Angola is one of the top three food insecure countries in the SADC region. Migration to coastal areas has concentrated the population on coastlines, which are vulnerable to rising sea levels.

Malaria and diarrhoea are the leading causes of death in the country. More frequent extreme rainfall and flooding could lead to increased incidences of waterborne diseases and temperature shifts may alter the range of disease vectors and duration of malaria transmissions seasons.[34]

Botswana has observed considerable temperature increases and since the 1970s, and average temperatures have increased 1.5°C, with central, arid parts of the country's interior observed to have increased by as much as 2°C. Rainfall is highly variable but an overall reduction has been observed across the southern Africa region. Higher temperatures, land and water scarcity, flooding, drought, and displacement in Botswana will negatively impact agricultural production, causing a breakdown in food systems, which will affect marginalised groups disproportionately. Botswana is one of the top three most food insecure countries in the region. Botswana, the prevalence of stunting in children under age 5 was 31.4% in 2008, the prevalence of underweight children and wasting in children under 5 was 11.2% and 7.2%, respectively.

The significant increase in temperatures and incidences of floods and droughts is expected to have significant adverse health effects. Currently, 30% of the population of Botswana is exposed to some risks of malaria infection every year. During years of heavy rainfall, the risk of malaria shifts westwards and southwards. Diarrheal disease may be exacerbated by climate variability and change as variable rainfall patterns are likely to compromise the supply of fresh and clean water. The effects will be an increase in vector-borne and waterborne diseases, severe malnutrition, and increases in flood incidence and displacement of people.[35]

The **Comoros** is a small archipelago in the southwestern Indian Ocean and is made up of diverse coastal and marine environments from low coasts to cliffs and mountains, and it has an active volcano. The Comoros is densely populated, with approximately 465 inhabitants per km^2, and more than half of the population (53%) of 869,595 (2020) people is under the age of 20. High population density places intense pressure on natural resources and the environment. Poverty is widespread throughout the Comoros, with 40% of the population living below the poverty line.

Due to its location and topography Comoros is among the most climate vulnerable countries in the world, and 54.2% of the population live in at-risk areas. Changes in climate by 2050 are estimated to be a raise in mean annual air temperature to an average of 28°C, a change that represents a 1°C increase compared to the current situation. A sea level increase of 4 mm/year for a total increase of 20 cm by 2050 is also expected.

Agriculture, including fishing, hunting and forestry accounts for 50% of GDP, employs the majority of the labour force and provides most of the exports. Export income is heavily reliant on the three main crops of vanilla, cloves, and ylang ylang (perfume essence); and the Comoros' export earnings are easily disrupted by disasters such as fires and extreme weather.[36]

[34] USAID, Factsheet, Climate Risk Profile Angola,2018
[35] Climate Risk Profile: Botswana (2020): The World Bank Group.
[36] Climate Knowledge Portal, https://climateknowledgeportal.worldbank.org/country/comoros , accessed 15 September

The **DRC** is at risk of many natural hazards, including volcanic eruptions, earthquakes, floods, and droughts. Vulnerability to these hazards is exacerbated by poverty and political insecurity. The most impactful natural disasters in the DRC have been floods and epidemics which accounted for 27% and 58% of all disasters, respectively. Lower-income populations tend to reside in more hazard prone locations, with high potential for significantly increased exposure of already vulnerable populations.

The agricultural sector is critical to the DRC's economy and food security and is considered one of the most vulnerable to projected climate changes. The agricultural sector accounts for 40% of the national GDP, employs 70% of the country's population, of this 72% are women, and this is their primary source of income. Food security will be affected by land and infrastructure degradation due to erosion/landslides, a rise in livestock and crop diseases due to temperature increases, direct crop failure due to floods and heavy rains.

Malaria is a leading cause of morbidity and mortality in the DRC and it is projected to extend in both seasonality and geography. Rising temperatures and increased humidity will impact the lifecycle and habitat of malaria-carrying mosquito and parasite species, resulting in a change and spread of the temporal and geographic range of malarial zones. In existing malaria-prone areas, malaria cases are projected to triple by mid-century.[37]

Eswatini is at high risk of natural hazards, which are expected to primarily affect the agricultural sector, through seasonal flooding and periods of drought exacerbating the country's existing challenges of food insecurity, ability to attain development goals. Both minimum and maximum temperatures are projected to increase by as much as 1.9°C by the 2050s.[38]

The agricultural sector contributes nearly 11% of the country's GDP and occupies 75% of crop land. Over the past decade, Eswatini has experienced more frequent and intense extreme weather events, including an El Niño-induced drought in 2015 and 2016, resulting in a sharp decline in crop-production levels and crop diversity. Declines in crop production are major setbacks to subsistence and commercial farmers as well as to a national economy in which agriculture ranks second only to manufacturing, increasing vulnerability for the more than 70% of the population that is reliant upon the subsistence farming. Eswatini is one of the most food insecure country in the region with 63% of the population experiencing moderate or severe food insecurity.

Increasing temperatures and changing rainfall patterns and catastrophic weather events will pose health risks including increased deaths due to heat waves, and natural hazards, such as floods, vector-borne diseases such as malaria and other existing and emerging infectious diseases. Given the country's high prevalence of HIV/AIDS, these households are also expected to be particularly vulnerable.[39]

More than 90% of disasters in **Lesotho** are related to climate variability and change, specifically, drought, snowfall, hailstorms, strong wind, localized floods, and early frost and pest infestations. Water, agriculture, forestry, human health, and livestock are the country's most vulnerable sectors with respect to climate variability and change. Most recently, the country suffered from a severe drought from 2015 to 2017, due largely to El Niño events that affected Southern Africa. This had dramatic impacts to the country's food security situation and required international food assistance from international donors.

Agriculture is a key economic sector and a major source of employment in Lesotho, with 60%-70% of the country's labour earnings derived from agriculture. Agriculture is predominantly small-

[37] Climate Risk Profile: Congo, Democratic Republic (2021): The World Bank Group.
[38] Climate Risk Profile: eSwatini (2021): The World Bank Group.
[39] Afrobarometer Dispatch No. 226 | Sipho Kunene, Dispatch No. 226 | 6 August 2018

scale, and characterized by rainfed cereal production with extensive animal grazing; the livestock subsector contributes approximately double that of the crop subsector. Home gardening is also an important source of horticultural produce, with an estimated 70% of rural households producing vegetables. The growing vulnerability and deepening food insecurity are generally associated with widespread livelihood failure for many rural households. Just less than half the population (49%) experience moderate or severe food insecurity.

Health systems and outcomes will also be affected, as climate change trends could aggravate heat stress, increase the range of vector-borne diseases including malaria, dengue fever and yellow fever, and exacerbate air pollution, which could impact communicable diseases such as HIV/AIDS, TB, and other respiratory disease. With the upsurge in HIV/AIDS related chronic illnesses, family members have assumed greater roles in care giving, a practice that represents a drain on household resources, depresses productive capacities, and further threatens food security and livelihoods.[40]

Madagascar is the world's fourth largest island and home to a diverse and unique range of species and ecosystems, many of them vulnerable to current and future climate patterns. The driving sectors of Madagascar's economy include agriculture (predominantly rainfed), fisheries and livestock production, all of which rely on climate-sensitive natural resources. Food security is a major concern, with 25% of the country's rural population classified as severely food insecure.

Madagascar is vulnerable to extreme weather events, and has the highest risk from cyclones in Africa. These events are becoming increasingly frequent and intense: in the past 20 years Madagascar has been struck by 35 cyclones, eight floods and five periods of severe droughts (a three-fold increase over the previous 20 years), causing $1 billion in damages and affecting food security, drinking water supply and irrigation, public health systems, environmental management and quality of life. Projected changes include, average temperature increase of between 2.5° - 3°C by 2100 and reduced rainfall during the dry season and increased amounts of rain will fall during the rainy season by 2065.

Climate change will have negative effects on health, for example, incidence of diarrheal disease increase during the cyclone season, which increases flooding and leaves standing water, a breeding ground for waterborne diseases. Malaria is an important cause of overall mortality in the country, and higher temperatures would expand the disease vector's range, particularly to higher elevations where a large percentage of the population lives. Acute respiratory diseases, known to be exacerbated by higher temperatures, are also a concern as they are the number one cause of death in children under five.[41]

Malawi is a low-income country facing a number of challenges that increase its vulnerability to a changing climate, including high population growth, dependence on rainfed agriculture, high rates of malnutrition and HIV/AIDS and inadequate power supply. Poverty rates are high and on the rise in rural areas, where 85% of the population reside.

Agriculture is central to Malawi's economy, contributing nearly 40% of GDP and roughly 90% of the country's export earnings. Improving agricultural production is key to poverty reduction, but the increased frequency and intensity of drought and flood events hinder progress. In 2015 maize production fell by 30% due to floods in the south, followed by a countrywide drought that put 17% of the population at risk of food insecurity and depressed macroeconomic growth. The majority of agriculture production is rainfed and focused on maize. Erratic rainfall poses a challenge to maize productivity, as do higher temperatures and droughts, as well as dry spells during the rainy season. The increased frequency of droughts and floods, along with higher temperatures, negatively impacts on fisheries, wildlife and forests, which provide food, income, fuel and other environmental services to vulnerable populations.

[40] Climate Risk Profile: Lesotho (2021): The World Bank Group.
[41] USAID, Factsheet, Climate Risk Profile Madagascar, 2016

Climate change is likely to exacerbate the generally poor health conditions in Malawi, which include high rates of infant and maternal mortality, malaria, diarrheal diseases, HIV/AIDS and malnutrition. As temperatures increase, the incidence of malaria is expected to increase and spread into higher altitudes. Recurring floods in the south put already vulnerable, displaced communities without access to clean water or sanitation at greater risk of cholera and other diarrheal diseases.[42]

The small island state of **Mauritius** is amongst the most vulnerable countries to the impacts of climate change including intense cyclones, abnormal tidal surges, prolonged droughts, flash floods and increase in sea temperature. Climate records from the 1960s to 2014 show warming of about 1.2°C and a decreasing trend in rainfall. Sea levels are rising at a rate of 5.6 millimetres (mm) per year at mainland Mauritius and 9 mm per year at the island of Rodrigues, higher than the global average of 3.3 mm per year. This impacts on beaches, which sustain the tourism industry, a major pillar of the economy. The frequency of tropical cyclone strength storms and other extreme weather events such as flash floods have affected the economy, ecosystems and livelihoods.[43]

The projected reduction in rainfall and an increase in evapotranspiration may make agricultural production decline by as much as 15 to 25% by 2050. With a decrease in rainfall of 10 to 20% and a temperature increase of two degrees, sugar yield is expected to decline by one half to two thirds. It is estimated that over the next 50 years, half of the beaches will be lost to the point of supporting no visitors. Extreme weather events, including heavy rains, storms and flash floods, are likely to become ever more frequent and intense in Mauritius.[44]

Poverty, weak institutional development and frequent extreme weather events make **Mozambique** especially vulnerable to climate change. Climate-related hazards such as droughts, floods and cyclones are occurring with increasing frequency, which is having a cumulative and devastating impact on a population that is insufficiently prepared.

Central Mozambique is projected to experience recurrent agricultural losses as a result of droughts, floods, and uncontrolled bush fires. The densely populated coastal lowlands will be increasingly affected by severe erosion, saltwater intrusion, loss of vital infrastructure and the spread of diseases such as malaria, cholera, and influenza. Changing rainfall patterns will lead to a decrease of soil water recharge, impacting ground water resources and the water table in wells.

Mozambique's vulnerability is to a large extent due to its dependence on agriculture, which contributes about 28% of its GDP and employs 81% of its labour force. Most of the country's agricultural production is done by small-scale subsistence farmers and 95% of food production is rain-fed. Few farmers can afford to invest in advanced agricultural technologies - and those who do, often on more fertile soils along river-banks and flood plains, risk destruction of harvests by floods.[45]

Namibia is one of the largest and driest countries in sub-Saharan Africa, characterised by high climatic variability through persistent droughts, unpredictable and variable rainfall patterns, variability in temperatures and water scarcity. The climate is generally hot and dry with sparse and erratic rainfall. 92% of the land area is defined as very-arid, arid or semi-arid. Namibia is highly vulnerable to natural disasters such as droughts, flooding, water scarcity, extreme heat, and wildfires. The population is at most at risk from floods, drought, and disease outbreaks. The 2013 drought in Namibia was so severe that it affected approximately 37% of the population and was declared a national disaster. In Namibia, floods have affected over 1 million people at a cost of approximately $100 million per year.

[42] USAID, Factsheet, Climate Risk Profile Malawi, 2017
[43] World Bank, Climate Knowledge portal https://climateknowledgeportal.worldbank.org/country/mauritius/climate-data-historical accessed 6 September 2021
[44] Ramano,K and Dombrowski K, Mauritian minister warns: "It is a matter of life and death", Development and Cooperation, 23 April 2021
https://www.dandc.eu/en/article/small-island-developing-states-are-hardly-responsible-climate-change-most-affected accessed 6 September 2021
[45] Danish Ministry of Foreign Affairs (MFA) Climate change Profile Mozambique, April 2018

The agricultural sector is critical to Namibia's economy and the overall food security and contributes approximately 7%-10% of the country's GDP. Agriculture impacts directly on the livelihoods of 70% of the population which is largely dependent on rain-fed crop production, with nearly 48% of Namibia's rural households dependent on subsistence agriculture.

Namibia's health services are shared between the public and the private sector. Infant and child mortality is comparatively low, but the maternal mortality ratio has increased, despite the fact that over 70% of births are delivered in hospitals. The five leading causes of deaths (all age groups) are HIV/AIDS, diarrhoea, tuberculosis, pneumonia, and malaria. Malaria is one of the major health problems, however, year-on-year incidences of malaria are highly variable, and closely correlated with the prevailing temperature, rainfall, and humidity.[46]

Seychelles is an archipelago of 115 islands with just 98,000 citizens. Seychelles has the highest GDP per capita in Africa at $12.3 billion. The small island state is highly dependent on tourism. Climate change poses long term sustainability risks.[47]

Sea level rise, storm and tidal surges, extreme sea-surface temperatures, and coastal flooding will have serious consequences for livelihoods in the Seychelles. Changes in long-term rainfall patterns and temperature will also have adverse consequences for water, food and health.[48]

South Africa is located within what is considered a 'drought belt' and is the fifth most water scarce country in sub-Saharan Africa. Approximately 50% of the country's water supplies are used by its extensive industrial agriculture sector. Approximately 50% of the country is classified as arid or semi-arid.[49]

South Africa is highly vulnerable to climate variability and change due to the country's high dependence on rain-fed agriculture and natural resources, high levels of poverty, particularly in rural areas, and a low adaptive capacity. The three most significant drivers of climate-related disasters in South Africa are drought, floods, and wildfires. Drought affected an estimated 15 million South Africans between 1980 and 2013. The floods that occurred between 1980-2013 affected over 483,000 people. Wildfire damage to agriculture and forestry is also significant. Coastal storms can impact developments, infrastructure, fishing communities, as well as coastal biodiversity. Annually, these disasters incur approximately Rand 3 billion (US$ 163.3 million) a year in damages.

South Africa is likely to become hotter and drier in the future, with rainfall variability continuing and temperatures rising, the country will continue to experience extreme events like droughts, floods, and other climate-related hazards.

The high evaporation rate of already dry soils and the virtual absence of permanent surface water over large parts of the country make water a scarce resource, with some projections indicating that even without climate change, the country is likely to run through its existing surface water resources in the near-term future.[50]

Rising temperatures, longer dry spells, more intense heavy rainfall and sea level rise make **Tanzania** the 26th most vulnerable country to climate risks. Thirty-two percent of the population lives in urban areas, and 75 percent of that population lives in informal settlements that are increasingly at risk from water scarcity, flooding and heat extremes. The agricultural sector makes up about 25% of GDP and employs 75-80% of the population. In rural areas, there is high dependence on rainfed agriculture. About 80% of agricultural production comes from rainfed, low-input smallholder farms highly vulnerable to weather variability. Livelihoods and food supply also depend on coastal and inland fisheries, which are increasingly threatened by warming ocean and freshwater temperatures, and

[46] Climate Risk Profile: Namibia (2021): The World Bank Group.
[47] https://climateknowledgeportal.worldbank.org/country/seychelles/climate-sector-agriculture
[48] The Seychelles National Climate Change Committee Seychelles National Climate Strategy, November 2009
[49] Climate Risk Profile: South Africa (2021): The World Bank Group.
[50] Climate Risk Profile: South Africa (2021): The World Bank Group.

sedimentation after heavy rains. Sea level rise is putting coastal infrastructure, coastal populations (about 25 percent of the total population), and coastal ecosystems at risk of inundation, salinisation and storm surge.

Diarrheal diseases and malaria, both leading causes of death in Tanzania, are likely to escalate due to increasing temperatures and heavy rainfall. Ninety three percent of the population remain at risk to malaria. New cases are emerging in historically malaria-free regions. Projected increased flooding threatens further outbreaks of waterborne diseases such as cholera and typhoid, as just 61% percent of the population has access to improved drinking water sources and only 19% to improved sanitation.[51]

Changes in climate pose challenges to **Zambia**'s ongoing efforts to combat poverty, reduce food insecurity and sustainably manage natural resources. Almost 60% of the population live under the poverty line. Droughts and floods have increased in frequency and intensity over the last two decades, which have adversely impacted food and water security.

Agricultural constitutes 9% of GDP, consisting largely of rainfed subsistence farming, which is highly sensitive to climate change. Agriculture is the mainstay of rural employment in Zambia. Most livelihoods depend on staple crops like cassava and maize, whose yields rely on a timely rainy season and stable temperatures. Increasing temperatures and erratic rainfall patterns have altered crop water requirements, significantly impacting yields. Higher temperatures have also increased the spread and incidence of pests and diseases. Reduced agricultural productivity will likely exacerbate already high rates of food insecurity and malnutrition.

Zambians already suffer from climate sensitive diseases such as malaria and diarrhoea. Malaria affects over four million Zambians annually and cholera is a recurring problem in peri-urban areas and is linked to weather, in 2010 an outbreak in Lusaka following heavy rains and flooding, reached 4,500 cases. Inadequate health coverage, high levels of poverty and fragmented water supply and sanitation all contribute to the health sector's vulnerability.[52]

Zimbabwe has endured various natural hazards, including droughts, epidemic diseases, floods, and storms over the past century. From 1900 to 2017, events captured in the EM-DAT Emergency Events database for Zimbabwe include seven drought events, 22 epidemic episodes, 12 floods, and five storms. These resulted in 7,000 deaths, with more than 20 million people affected, and total damage estimates of $950 million. Zimbabwe's annual rainfall has been decreasing in the past decades and annual temperature has increased by roughly 0.03 degrees Celsius per year from 1970 to 2016.

In 2016, agriculture covered 42% of the total land area but accounts for 67% of the total employment. Approximately 80% of agricultural production is rain-fed and the remaining 20% is irrigated, making it one of the most irrigation dependent countries in SADC. This sector is therefore highly vulnerable to climate change, especially rainfall variability and climate-induced extreme weather events. Droughts lead to poor harvests and reduced productivity. They will have adverse effects on food security and malnutrition. Zimbabwe is one of the most food insecure countries in SADC: 67% of the population experience moderate or severe food insecurity.

Climate change is also predicted to have a wide range of impacts on human health including temperature related morbidity and mortality caused by extreme temperatures and those caused by extreme weather events such as malnutrition, water-borne, as well as food borne and vector-borne diseases.[53]

[51] USAID, Factsheet, Climate Change Risk Profile Tanzania, 2018
[52] USAID, Factsheet, Climate Change Risk Profile Zambia, 2016
[53] Climate Risk Profile: Zimbabwe (2021): The World Bank Group.

Table 11.3: Gender dimensions of climate change in SADC

Area of concern	Gender implications
Food security	Most women in the region take part in farming, but they have trouble obtaining education, income, land, livestock, and technology. This means that climate change may negatively impact female farmers more than male farmers by further limiting their resources. Women produce between 60% and 80% of all food in the developing world, yet they own just 10% of all agricultural land and just 2% of land rights.
Water	Many countries in the region have been experiencing droughts and water shortages. This has compromised livelihoods, particularly for many women and young girls who must ensure availability of water. They now travel longer distances to collect water, often exposing themselves to dangerous threats such as human trafficking and sexual violence.
Division of labour	Gender-based prejudices and stereotypes exclude women from areas of the green economy such as transport and energy, wasting human resources and preventing the SADC region from achieving its full competitive potential.
School drop-out	In many countries, men force girls and young women to stay out of school to look for opportunities to generate income for their families as agricultural production in the region declines.
Land	Women, especially single women and widows, still struggle to access land for resettlement and production, including farming, to generate income for their families.
Transport	Women depend on access to public transport to a larger degree due to lower levels of car ownership, but also because of their preferences for the use of environmentally friendly solutions such as public transport.
Health	Women are more likely to have a greater awareness of health issues and more highly developed risk perceptions, which often impacts how they perceive health and environmental issues. Men tend to be more strongly oriented towards convenience.
Stress	Stress levels and related diseases may increase for both women and men. Because society expects men to support the family, they experience and express stress in different, often more devastating ways than women.
Migration	In many countries, men migrate from rural areas and small towns to move to big cities due to declines of natural resources and agriculture. They often leave women behind to care for the children and the elderly on their own.
Gender violence	Incidents of sexual violence remain frequent in shelters where natural disaster victims take refuge; and men and women share limited space with no privacy. These shelters usually lack safe and adequate ablution blocks and often women and girls must walk alone outside at night to relieve themselves, risking sexual abuse.
Energy poverty	Due to their lower average income, women are at greater risk of energy poverty than men and have fewer options for investing in low-carbon options such as energy efficiency and renewable energies.
Decision-making	The climate change sector does not equally include men and women at decision-making levels. There is an urgent need to improve gender equality in decision-making in this field, especially the transport and energy sectors. It is also important to increase the number of women with relevant qualifications in scientific and technological areas and who participate in relevant scientific bodies at the highest level.

Source: Gender Links, 2020.

Table 11.3 summarises several gender dimensions of climate change. It shows how every aspect of women's lives are impacted by climate change.

Direct and indirect impact of climate change on individuals' SRHR

Food insecurity

Food insecurity is one of the biggest threats posed by climate change for women as principal caregivers and food providers of families and communities. Altered weather patterns are severely affecting crop production, with detrimental effects on food and nutrition security. Over the last decade, cereal production has fallen, and the region has been recording cereal deficits ranging between 0.1 and 8.9 million metric tonnes. The weather-related effects of the 2015/2016 El Niño alone had a significant negative impact on cereal production. Cereal production decreased by 24% to 33 million metric tonnes, down from 41 million metric tonnes in 2014, inducing an overall cereal deficit of 7.9 million metric tonnes.[54]

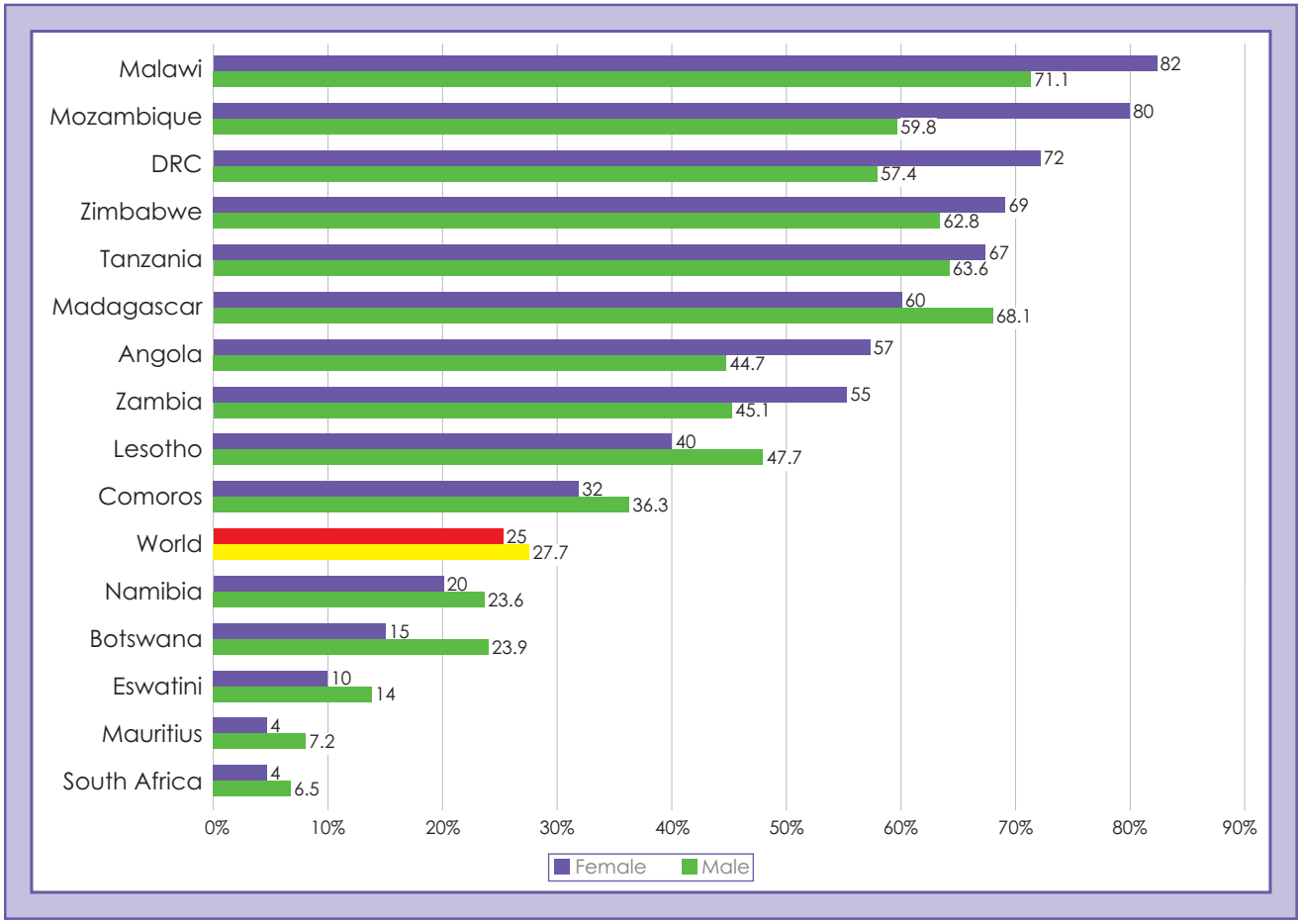
The SADC Climate Change Strategy and Action Plan (SADC CCSAP) commits to "ensuring enhanced contribution to agricultural development and food, nutrition and security by women, youth and other vulnerable groups by guaranteeing them effective access to productive resources, services and social/ economic opportunities. In particular, Member States acknowledge that women in agriculture who make up more than 50% of the rural population, play a central role in producing, harvesting, processing, storage and marketing of food"[55] making it a critical employer.

While women make up a large proportion of those in the agricultural sector, they traditionally have less access than men to productive resources, services and opportunities, including land, financial services, education and technology. This means that climate change may negatively impact female farmers more than male farmers by further limiting their resources.

Smallholder farmers from Eswatini's eastern Lubombo district. Photo courtesy of Mujahid Safodien/IRIN

[54] Southern Africa Development Community (SADC), 2020. Synthesis Report on the State of Food and Nutrition Security and Vulnerability in Southern Africa.
[55] SADC Secretariat, SADC Climate Change Strategy and Action Plan (SADC CCSAP), 2015, p28

Figure 11.1: Female and male employment in agriculture (%)



Source: World Bank Data (2010-2019).[56]

Figure 11.1 shows that in eight SADC countries (Malawi, Mozambique, DRC, Zimbabwe, Tanzania, Angola and Zambia) the agriculture sector is the biggest employer of women and in seven of these countries women outnumber men in the sector, highlighting the importance of this sector to women's lives and livelihoods. Namibia, Botswana, Eswatini and Mauritius have less than 20% women employed in agriculture.

Although women predominate in the sector they have less access to resources and socially sustainable agricultural inputs, markets and climate resilient farming technologies and information. Governments should prioritise investing in women in the agricultural sector and ensure that adaption strategies address their specific needs and circumstances.

[56] https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=AO-BW-KM-CD-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ&view=chart accessed 2 September 2021; https://data.worldbank.org/indicator/SL.AGR.EMPL.MA.ZS?locations=AO-BW-CD-KM-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZM-ZW&view=chart accessed 8 September 2021

Women farmers taking the lead in Zambia

With EU support of more than EUR 12 million (USD 14 million), Food and Agriculture Organisation of the United Nations (FAO) worked alongside the Ministry of Agriculture in Zambia to launch the Conservation Agriculture Scaling Up Project in 2013. It set out to increase productivity and production of crops in 31 districts across Zambia. The project benefited more than 229 000 Zambian farmers - 40 percent of them women. In addition, it specifically zoomed in on productivity loss connected to soil degradation, high inputs prices, poor produce markets and poor farming practices. The overarching goal was to reduce hunger and to improve families' food security and nutrition along with their incomes - all the while promoting the sustainable use of natural resources through conservation agriculture (CA).

As is the case in many parts of the world, Zambian women work in agriculture with little reward or income in return for their labour. They traditionally have less access than men to productive resources, services and opportunities, including land, financial services and education. Recognising this, the project ensured the participation of rural women, who received support and education that helped them improve their yields, increasing their food security and that of their families.

This story illustrates the impact of investing in women:

When Margaret Chisangano acquired almost five hectares of land, she began rearing goats. Chisango allocated one hectare to grow maize, a staple food for most Zambians. But declining soil fertility and erratic rains led to a poor harvest. As the years went by, the land increasingly dried up to such an extent that even in the years with good rain there was a reduced yield.

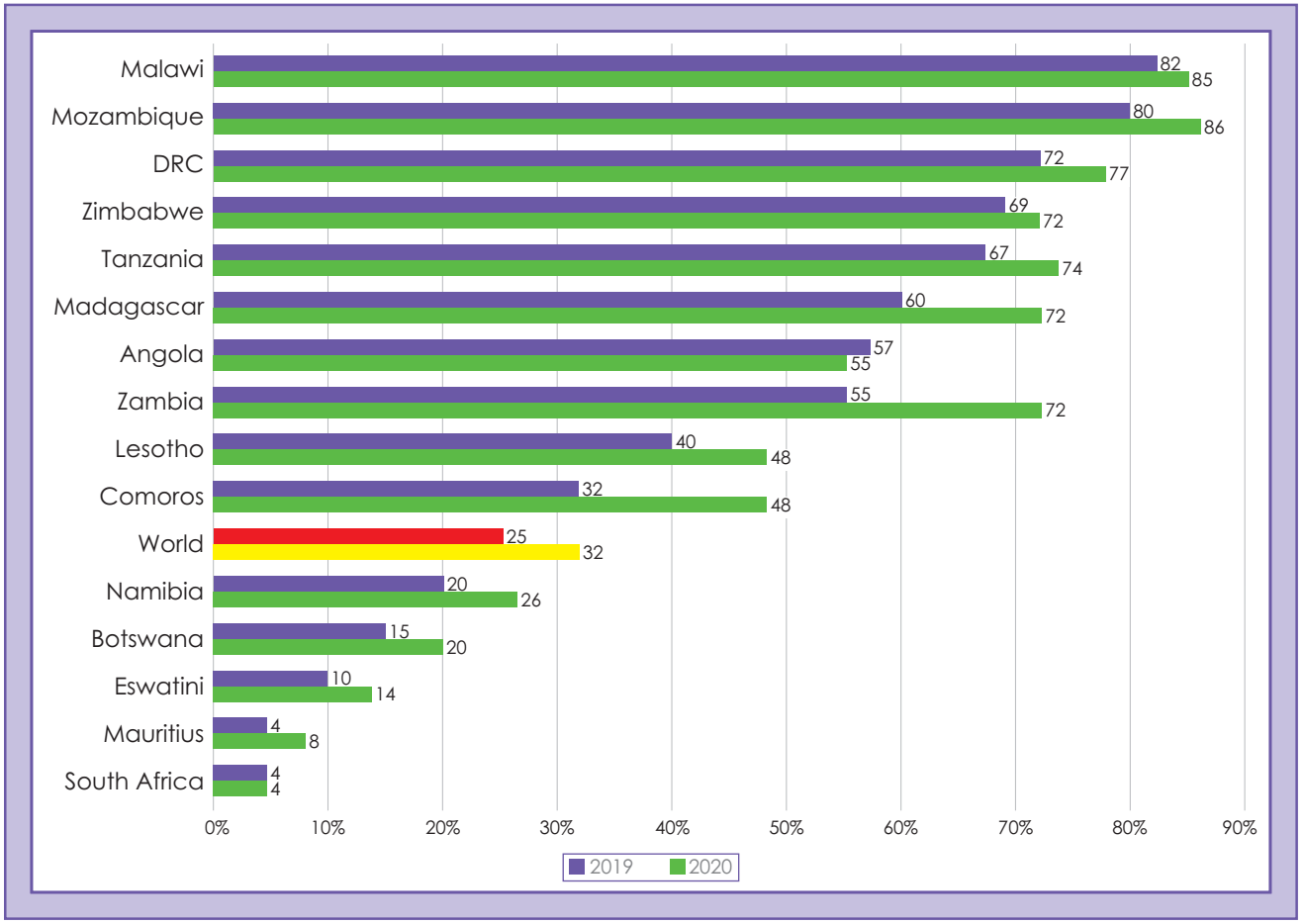
Chisango had difficulty supporting her five dependent children with her seasonal income. Having a year-round income meant the difference between bare survival and providing a decent life for the family. The benefits were almost immediate once she adopted conservation agriculture practices. "Once I started CA, my yields improved," she said. "From one hectare, I started producing 120 bags [of maize] where previously I was producing just ten bags."

Handling prolonged drought as a result of climate change is a major challenge in Zambia, but the farmers involved in the scheme prepare the land and plant early. This means there is minimal soil disturbance with greater water infiltration and retention in the soil. This results in increased production, which allows farmers to make good profits and reinvest in their land. The EU-FAO collaboration has long-term effects on the people in Chongwe district. From a thatched grass-roof hut Chisango moved her family into a five-room house with modern facilities. Her days of vulnerability are gone. "Today I have a house and I bought a vehicle from the profits I made through CA - I believe CA opened opportunities for me that would otherwise be unavailable."

Source: Women farmers taking the lead in Zambia, Food and Agricultural Organisation of the United Nations, 8 March 2019.

The decrease in women's employment in the agricultural sector, and what this means for their food security is a serious concern that needs to be monitored. Over the last decade women's employment in the sector has started to decline.

Figure 11.2: Employment in agriculture, female (% of female employment) 2010 -2019



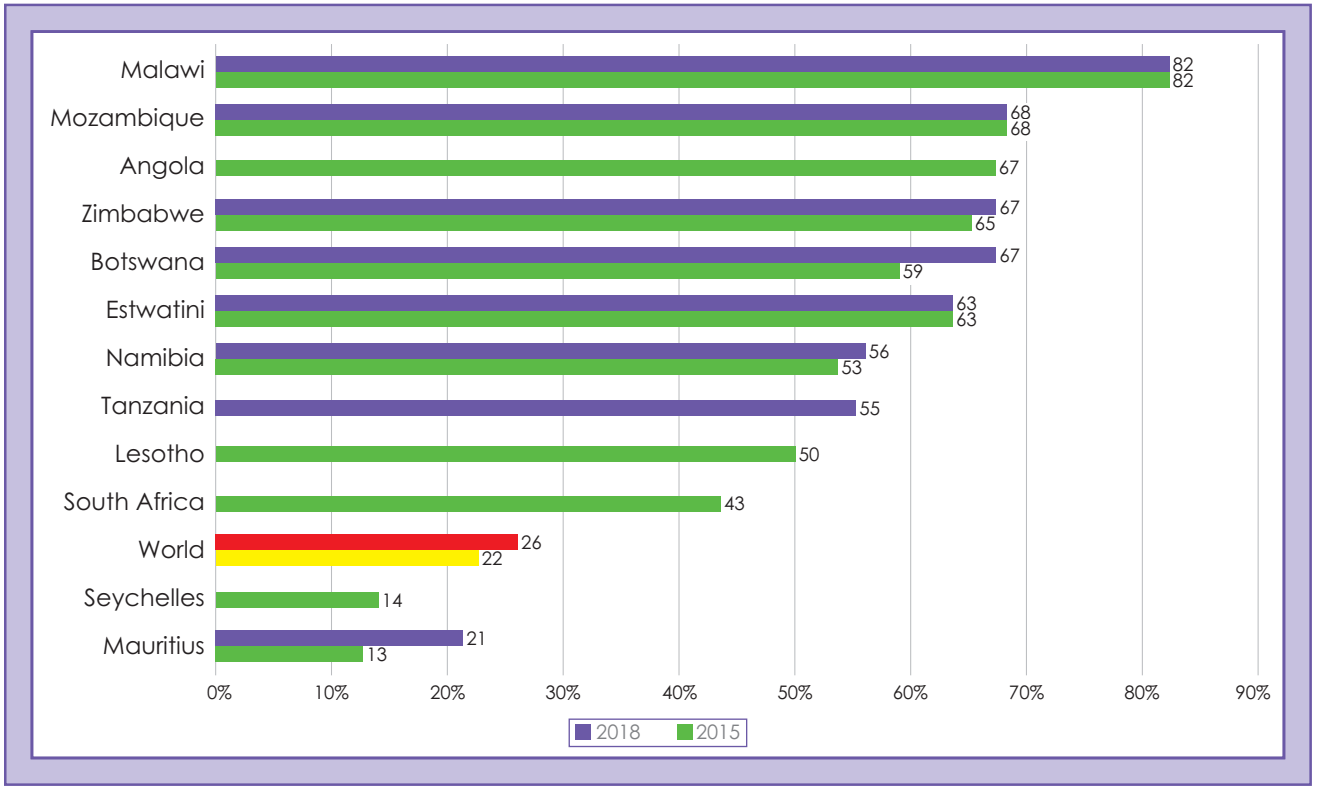
Source: World Bank Data (2010-2019).[57]

Figure 11.2 shows that women's employment in agriculture has decreased in all SADC countries, except Angola, between 2010 and 2019, in line with the global trend. Zambia witnessed the biggest reduction from 72% in 2010 to 55% in 2019.

Women's employment in agriculture has decreased in all SADC countries. Photo: Gender Links

[57] https://data.worldbank.org/indicator/SL.AGR.EMPL.FE.ZS?locations=AO-BW-KM-CD-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ&view=chart accessed 2 September 2021

Figure 11.3: Prevalence of moderate or severe food insecurity in the population (%) 2015-2018



Source: World Bank Data (2015-2018).[58]

Figure 11.3 shows that food insecurity has increased in all SADC countries, except Malawi and Mozambique where it has remained the same over the last three years. In 2018, nine SADC countries - more than half of the population - experienced moderate or severe food insecurity. This proportion increases to a massive 82% in Malawi. This is an extremely worrying trend and one of the greatest risks of climate change.

While regional data is not yet available, anecdotal evidence shows that the impact of COVID-19 has pushed families further to the brink of survival, dramatically increasing food insecurity for the poorest most vulnerable. This threatens to roll back years of progress.

"According to the World Food Programme, up to 96 million additional people were pushed into acute food insecurity in 2020 across 54 IDA countries. Added to the 137 million acutely food insecure people at the end of 2019 across these countries, this brings the total to 233 million people by the end of 2020. People living in fragile and conflict-affected situations are particularly at risk. World Bank projections suggest this could further increase to about 330 million in 2021."[59]

Women in the informal sector have been particularly affected, as they were not able to access markets and sell their products, reducing income and money available for food and essentials.

[58] https://data.worldbank.org/indicator/SN.ITK.MSFI.ZS?locations=AO-BW-KM-CD-SZ-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZW-ZM-LS, accessed 2 September 2021
[59] Townsend, R, Gautam M, Responding to a stark rise in food insecurity across the poorest countries, 21 February 2021 https://blogs.worldbank.org/voices/responding-stark-rise-food-insecurity-across-poorest-countries accessed 8 September 2021

Climate change induced hunger crisis in Madagascar

Ambonavio, Madagascar. Photo: Zotonantenaina Razanadratefa

Southern Madagascar is experiencing its worst drought in four decades with more than 1.14 million people food insecure.

Since last September, the start of the lean season, the situation had turned critical as families had already depleted their food supplies and gone through vital seed stocks, leaving nothing for the November/December 2020 planting season.

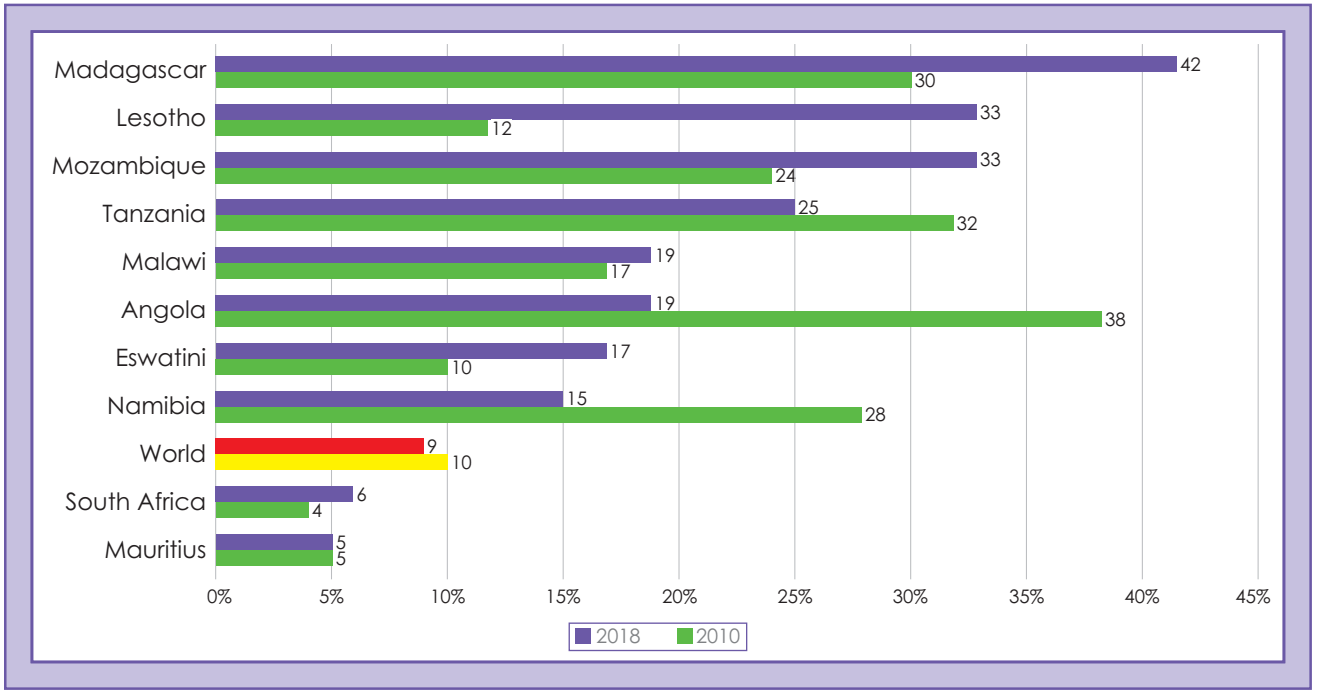
Currently, up to 80% of the population in certain areas in the south are resorting to desperate survival measures, such as eating locusts, raw red cactus fruits or wild leaves.

Moreover, with a lack of rain during the last planting season, prospects for the 2021 harvest are poor, indicating another longer tougher lean season from October to March 2022. WFP said that food production this year is expected to be "less than 40 per cent of the last five-year average", which only adds to the difficulties faced by communities already on the brink of survival to feed themselves.

At the same time, semi-arid conditions in southern Madagascar, combined with high levels of soil erosion, deforestation and unprecedented sandstorms, have transformed arable land into wasteland across the region. Most districts in the South are in the throes of a nutrition emergency with Global Acute Malnutrition (GAM) levels in children under five, nearly doubling over the last four months - touching an alarming 16.5 per cent - the Ministry of Health reported. And in the worst affected district of Ambovombe, GAM has risen above 27 per cent, putting the lives of many children at risk.

Source: Humanitarian Aid, Madagascar edges toward famine, UN food agency appeals for assistance, 29 April 2021, https://news.un.org/en/story/2021/04/1090922 accessed 7 September 2021.

Figure 11.4: Prevalence of undernourishment (% of population) 2010 - 2018



Source: World Bank Data (2010-2018).[60]

Figure 11.4 shows that the prevalence of malnourishment has decreased globally from 10% in 2010 to 9% in 2018, but has increased in seven SADC countries (Mauritius, South Africa, Eswatini, Malawi, Mozambique, Lesotho and Madagascar).

While Mauritius has the lowest prevalence of food insecurity and undernourishment in the region, it has seen the biggest increase in those experiencing food insecurity, which could be attributed to climate change and reduced rainfall.

Below-average rains in early 2021 undermine production prospects

About 40% of Mauritius' land is used for crop cultivation. Ninety percent of this is sugarcane, a major export earner. Tea, tobacco and a small number of food crops, mainly vegetables and fruits make up for the remainder. Below-average rainfall amounts in January and February 2021 reduced soil moisture levels and consequently impaired production prospects. According to Statistics Mauritius, production of food crops was estimated at 95,000 tonnes in 2020, about 7% below the previous five-year average and nearly unchanged compared to the output in 2019.

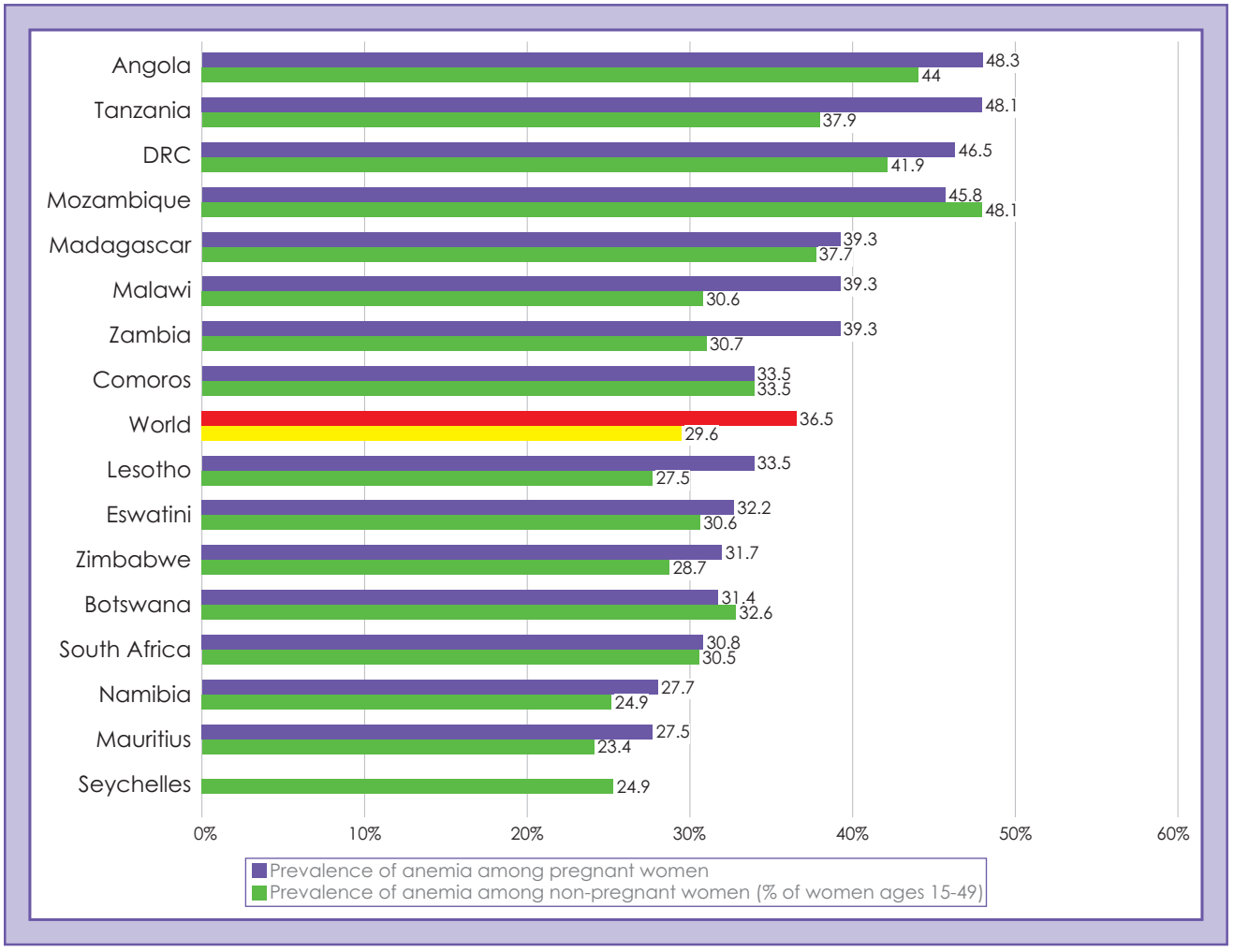
Below-average production reflects unfavourable weather conditions during the first semester of 2020 that adversely affected yields. COVID-19 lockdowns also had a negative impact. Production of sugarcane in 2020 dropped to 2.6 million tonnes, about 23% lower on a yearly basis and nearly 30% below the previous five-year average, mostly reflecting a significant fall in yields, following unfavourable weather conditions. Between 2015 and 2018 food insecurity has increased by 7,5 percentage points.[61]

[60] https://data.worldbank.org/indicator/SN.ITK.DEFC.ZS?locations=AO-BW-KM-CD-SZ-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZW-ZM-LS accessed 2 September 2021
[61] UNFAO, Global information and early warning system on food and agriculture, Mauritius Country Brief, 14 May 2021

Food insecurity is a major threat for pregnant women and young children. Anaemia affects an estimated 25.9% of women of reproductive age; 14.2% of infants have a low weight at birth.

Iron deficiency is the most common form of micronutrient malnutrition globally, according to the World Health Organization. Severe anaemia often results from malnutrition, parasitic infections, or underlying diseases.

Figure 11.5: Prevalence of aneamia in pregnant and non pregnant women aged 15-49 (%)



Source: World Bank Data (2019).[62]

Figure 11.5 shows that eight countries in the SADC region have a higher prevalence of anaemia in both pregnant and non-pregnant women, compared to the global average. The prevalence is higher among pregnant women. The prevalence of anaemia in women of reproductive age in four of the countries in the region (Angola, DRC, Mozambique and Tanzania) classified as severe (>40%). Anaemia in children 6-59 months is classified as severe in all (except Zimbabwe -38%) countries in the region (42% in Eswatini - 68% in Mozambique).[63]

[62] https://data.worldbank.org/indicator/SH.ANM.NPRG.ZS?locations=AO-BW-KM-CD-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZM-ZW accessed 2 September 2021
[63] World Food Programme, Climate Change in Southern Africa A position Paper for the World Food Programme in the region, June 2021, p22

Maternal health

Pregnant women and new-borns are increasingly being recognised as vulnerable populations in the context of climate change. The effects can be direct or indirect through heat stress, extreme weather events and air pollution, potentially impacting both the immediate and long-term health of pregnant women and new-borns through a broad range of mechanisms.

A large number of studies suggests an association between heat exposures and the risk of preterm birth, premature rupture of membranes, low birthweight and stillbirth. Low birthweight infants have increased susceptibility to a series of complications, including infections. In addition, dehydration from increased sweating as part of thermoregulation in pregnant women can trigger the onset of early labour and prolong duration of labour. Extreme heat may lead to elevated blood pressure and possible pre-eclampsia in pregnancy, one of the three main causes of maternal deaths globally[64].

Air pollution has also been shown to increase the risk of low birthweight infants and preterm birth. The number of air pollution-associated preterm births was 2.7 million in 2010, 18% of total preterm births globally[65]. Preterm births represents 11% of all births globally and 35% of all neonatal deaths, and is the leading cause of neonatal deaths globally and a significant contributor to long-term ill-health[66]. Lack of access to clean energy is a significant cause of climate change and impacts on maternal and neonatal health.

Other indirect consequences of climate change may be altered disease patterns and an increase in vector-borne diseases such as malaria, dengue and schistosomiasis, which are important complicating infections during pregnancy, malaria in particular. In addition, there are psychological consequences of climate change in conjunction with extreme weather events.

The proportion of maternal and neonatal mortality and morbidity attributable to climate change has not been comprehensively estimated, which justifies additional research efforts, particularly in low-and middle-income countries.[67]

Disruption of health care services

Climate change exacerbates the existing challenges that women and girls face in accessing sexual reproductive health services. Damage to infrastructure, as a result of extreme weather events such as flood and cyclones, results in services being disrupted due to road and transport system damage. Reduced access to SRH services such as contraception results in unwanted pregnancies and unsafe abortions (one of the leading causes of maternal mortality).

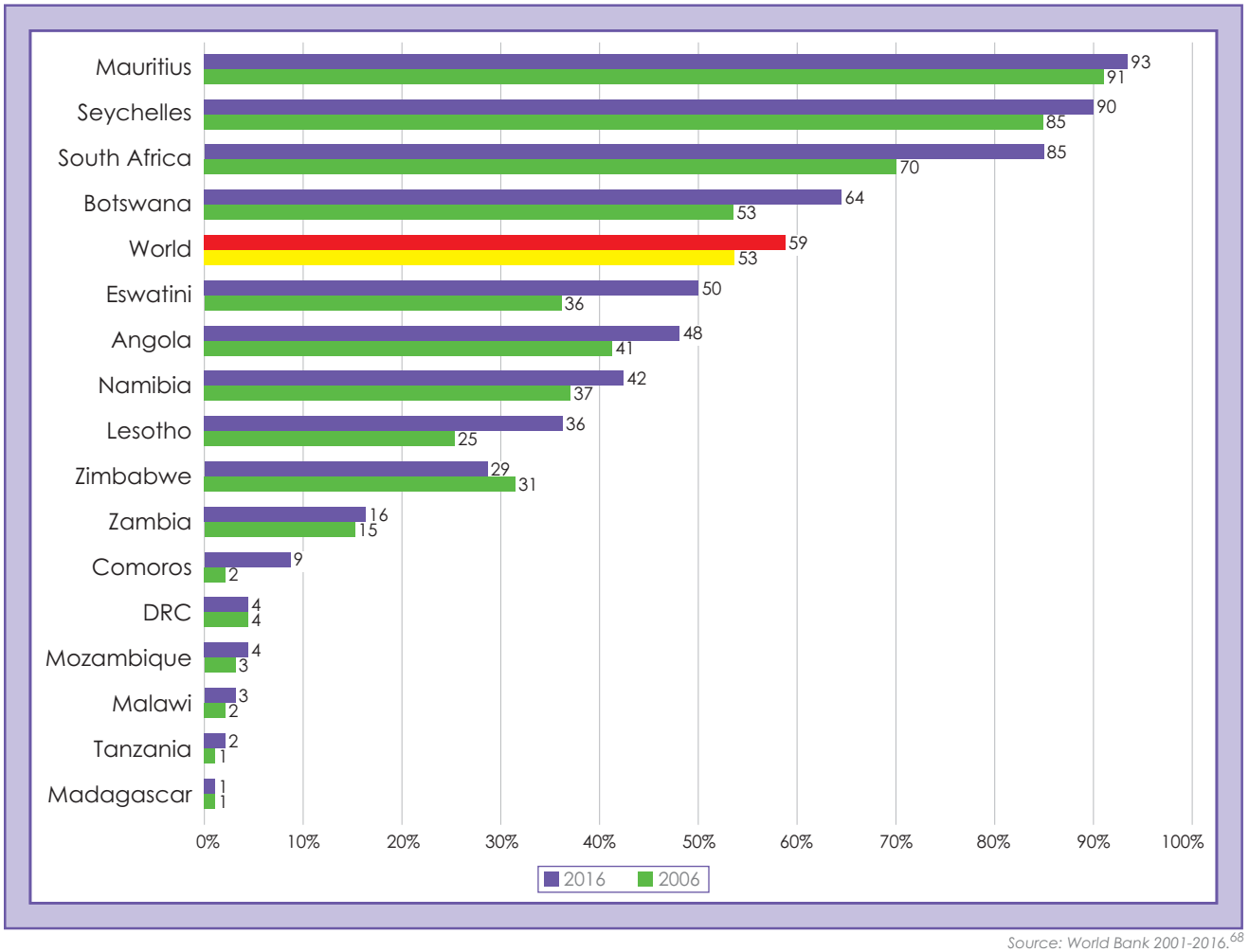
In humanitarian relief services SRH services are often underfunded and under-prioritised in response strategies. The absence of, or limited reference in any of the strategies or action plans abut health impact of Climate change and link to SRHR is a glaring gap that needs to be addressed in mitigation and adaption strategies.

[64] Acta Obstetricia et Gynecologica Scandinavica, Maternal and newborn health risks of climate change: A call for awareness and global action, published by John Wiley & Sons Ltd on behalf of Nordic Federation of Societies of Obstetrics and Gynecology (NFOG)February 2021, pp 567
[65] Ibid
[66] Ibid
[67] Ibid

Increased workload and burden of care of women

In SADC less than half the population (48%) have access to electricity and just 23% have access to clean fuel for cooking. As principal caregivers they are responsible for household task including collecting fuel and doing the cooking. Drought and deforestation means that women and young girls have to travel further to collect fuel for cooking.

Figure 11.6: Access to clean fuels and technologies for cooking (% of population)

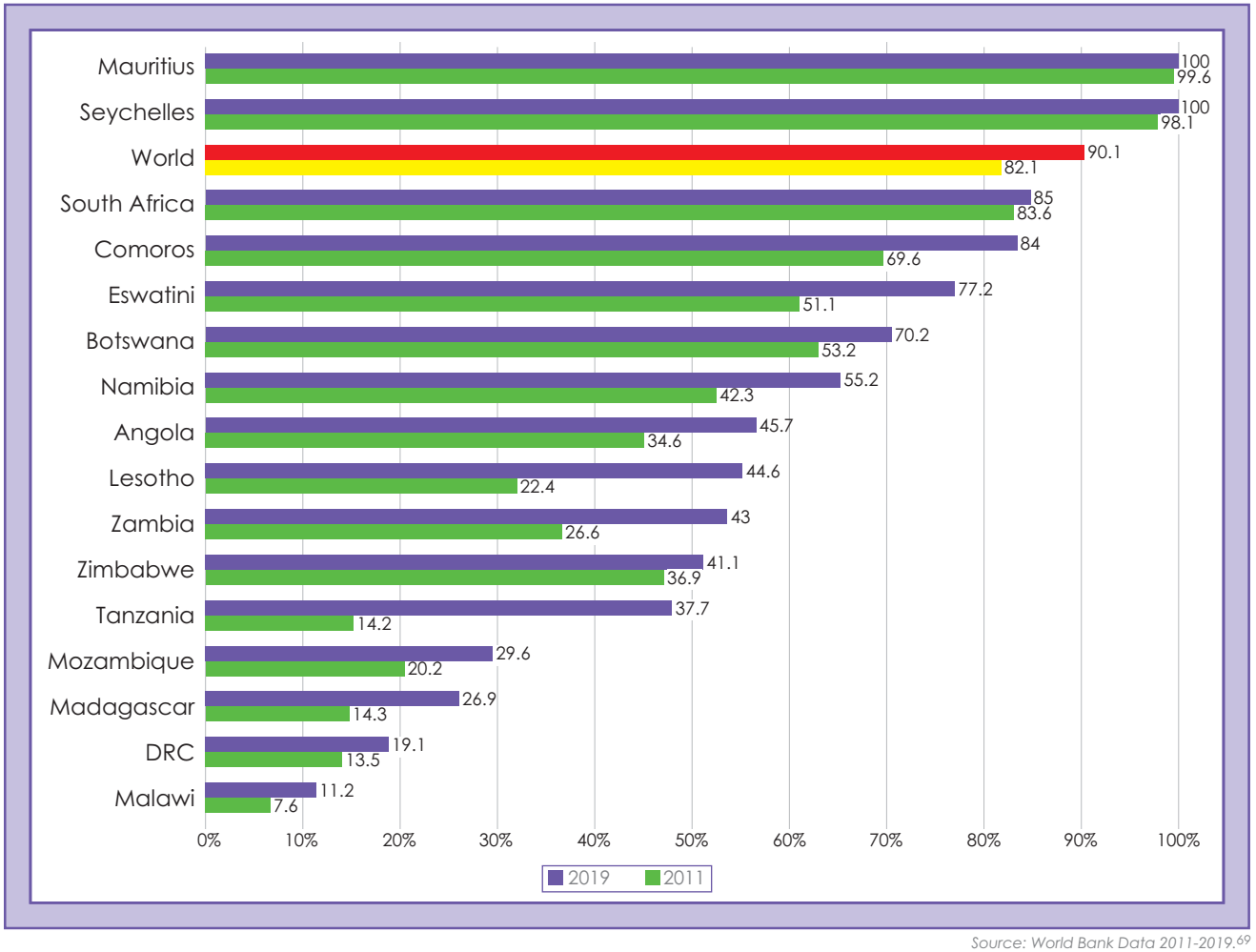


Source: World Bank 2001-2016.[68]

Figure 11.6 shows that there has been an increase in access to clean cooking fuels and technology. But only four SADC countries (Mauritius, Seychelles, South Africa and Botswana) have more than half their population having access to clean cooking fuels and technology. In six countries (Madagascar, Tanzania, Malawi, Mozambique, DRC and Comoros) less than 10% of the population has access to clean cooking fuels and technology.

[68] https://data.worldbank.org/indicator/EG.CFT.ACCS.ZS?locations=AO-BW-CD-KM-SZ-LS-MG-MW-MU-MZ-NA-SC-ZA-TZ-ZM-ZW accessed 2 September 2021

Figure 11.7: Access to electricity (% of population) 2011-2019



Source: World Bank Data 2011-2019.[69]

Figure 11.7 shows that while there has been an increase in access to electricity across the region, 14 SADC countries remain below the global average of 90%.

Increase in sexual and gender-based violence

The climate crisis fuels violence against women in a number of ways and as resources dwindle women become more vulnerable to exploitation and violence. In periods of prolonged drought, women and girls make more frequent and longer journeys to obtain food or water, which makes them vulnerable to sexual assault. Girls spend more time fetching water and have fewer days in school. They may even drop out. Research by the UNDP in Uganda found that women spending more time and energy finding food and water meant that they might not have time to complete their other household and family responsibilities. This extra work meant that they became too tired for sex. Some men respond to this with violence. In families where men left home to seek a living elsewhere, women and children were left to fend for themselves, which made them vulnerable to violence and sexual exploitation.[70]

[69] https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=SC-MU-MZ-KM-AO-BW-NA-MW-MG-CD-SZ-LS-ZA-ZM-ZW-TZ, accessed 2 September
[70] UNDP Blog, Why climate change fuels violence against women, January 2020, https://www.undp.org/blogs/why-climate-change-fuels-violence-against-women accessed 8 September 2021

Poor harvests, livestock loss, lower earnings and food insecurity may cause women to resort to trading in sex in exchange for food or rent. Young women are particularly vulnerable to transactional sex, as they have no access to resources, they may need for food, education or necessities like menstrual hygiene products, and are preyed on by older wealthier men. Some families may resort to forced and early marriages of their daughters to better cope with food scarcity.

Water scarcity and poor water quality

Safe drinking water and sanitation are two of the essential elements that determine improvement of living standards and good health. As those who bear the primary responsibility of collecting water, easy access to safe water and sanitation is particularly important to women and girls. Droughts as a result of climate change tend to lengthen the distances that have to be walked as water sources become scare due to reduced rainfall. Increased rainfall and floods are also a risk as flood water can contaminate drinking water (surface water, groundwater, and distribution systems) and may increase the incidence of water-borne and water related diseases in both urban and rural settings.

Table 11.4 Access to basic water and sanitation

Country	Basic sanitation % population	Basic drinking water % population
Seychelles	100	
Mauritius	96	100
Botswana	77	99
South Africa	76	93
Eswatini	58	69
Angola	50	56
Lesotho	43	69
Zimbabwe	36	64
Comoros	36	80
Namibia	35	83
Tanzania	30	57
Mozambique	29	56
Malawi	26	69
Zambia	26	60
DRC	21	43
Madagascar	11	54

Source:SDG Dashboard.[71]

Table 11.4 shows that water resources are unevenly distributed across the region ranging from 43% in Mozambique to 100% in Mauritius. Access to basic sanitation ranges from 11% in Madagascar to 100% in Seychelles. It has been projected that almost all countries in the region are likely to experience significant reduction in stream flow. Water-related health problems linked to water scarcity are predicted to worsen due to increased rainfall variability and high temperatures.[72]

Absent, inadequate, or inappropriately managed water and sanitation services expose individuals to preventable health risks. Contaminated water and poor sanitation are linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid, polio, schistosomiasis - an acute and chronic disease caused by parasitic worms contracted through exposure to infested water.

Diarrhoea is the most widely known disease linked to contaminated food and water but there are other hazards. Approximately 829 000 people are estimated to die each year from diarrhoea as a result of unsafe drinking-water, sanitation, and hand hygiene. Yet diarrhoea is largely preventable, and the deaths of 297 000 children aged under 5 years could be avoided each year if these risk factors were addressed.

Substandard sanitation practices compromises women's menstrual hygiene and saline contamination of drinking water has been linked to pre-eclampsia, eclampsia and hypertension among pregnant women.

[71] SDG Sustainable Development Goals Country Profiles, https://dashboards.sdgindex.org/profiles, accessed 26 October 2021.
[72] Young T, Tucker T, Galloway M, Manyike P, Chapman A, Myers J, Climate change and health in SADC region: Review of the current state of knowledge, 3 September 2010.

Where water is not readily available, people may decide handwashing is not a priority, thereby adding to the likelihood of diarrhoea and other diseases. This is a particular risk in the time of COVID-19 when handwashing is one the main ways of preventing the spread of the virus.

Lack of proper water and sanitation in health care facilities places patients and staff at additional risk of infection. Globally, 15% of patients develop an infection during a hospital stay, with the proportion much greater in low-income countries. Inadequate management of urban, industrial, and agricultural wastewater means the drinking-water of hundreds of millions of people is dangerously contaminated or chemically polluted.[73] These impacts are compounded women's lack of access to disaster information and low participation in decision making on climate change.

Access to information and consultation

Protocol on Environmental Management for Sustainable Development

Article 20.3 of the Protocol on Environmental Management for Sustainable Development notes that state parties shall design gender responsive capacity building, education and training on environmental management and climate change for sustainable development initiatives.

Article 20.5: State parties shall employ people-centred, equitable, gender inclusive and participatory consultations of all stakeholders in all environmental management and climate change for sustainable development programmes and initiatives

As this chapter has shown climate change impacts women in particular ways because of social and cultural norms and the role that women play in households. In particular, they feel the negative health impacts of climate change. Women's lack of voice and agency in decision-making can drive gender gaps in outcomes.

Addressing gender inequalities by enhancing women's participation in decision-making is crucial for building communities' resilience to natural disasters. Evidence demonstrates that women have an active role in disaster preparedness, response, and recovery efforts. Because women have a better understanding of what women need, their involvement and leadership in disaster decision-making is crucial.[74]

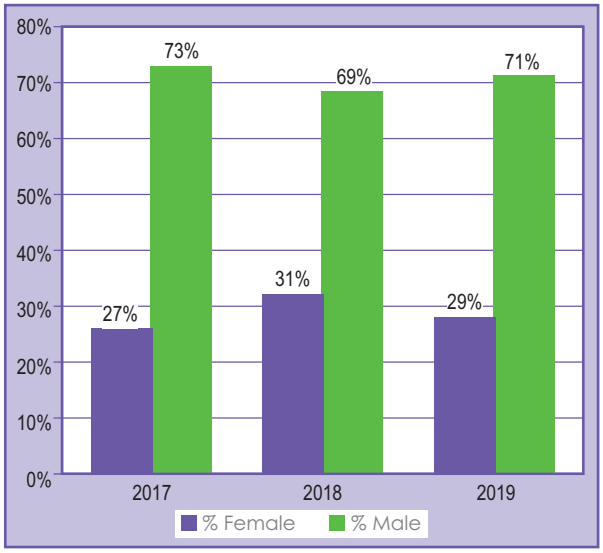
[73] WHO, Fact Sheet Drinking water, https://www.who.int/news-room/fact-sheets/detail/drinking-water accessed 15 September 2021
[74] Global Facility for Disaster Risk and Reduction (GFDRR) and World Bank Group, Gender Dimensions of Disaster Risk and Resilience, 2021

Women's Voice and Choice

The Conference of the Parties (COP 18) in 2012 agreed that additional efforts were needed by all Parties to improve the participation of women in bodies established under the Convention and its Kyoto Protocol. It decided to adopt the goal of gender balance for bodies established under the Convention and its Kyoto Protocol in order to improve women's participation and inform more effective climate policy that addresses the needs of women and men equally.

In addition, it advised Parties to strive for gender balance in their delegations to sessions under the Convention and its Kyoto Protocol. However progress has been slow, and COP 22 and 23 in 2016 and 2017 respectively noted the urgent need to improve the representation of women. Again in 2019 COP 25 recognized that the full, meaningful and equal participation and leadership of women in all aspects of the UNFCCC process and in national- and local-level climate policymaking and action is vital for achieving long-term climate goals.[75]

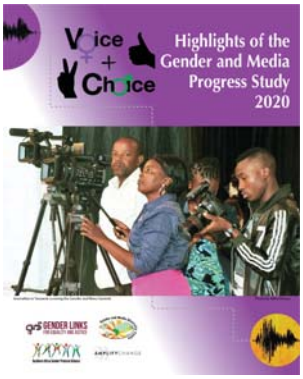
Figure 11.8: Gender composition of UNFCCC bodies



Source: UN Climate Change Secretariat (as at 12 April 2019).

Figure 11.8 shows that women are still under-represented on UNFCC bodies. This proportion ecreased by two percentage points to 29% in 2019. These statistics illustrate the need for more concerted effort to increase women's representation and meaningful participation in climate change negotiations.

The media also has a key role to play in reporting on climate change in a responsible manner and providing factual information. They play a key role in shaping public opinion about climate change. They have wide reach and help to explain technical jargon in simple terms. The media also portrays the human face of the climate crisis, holding those in power accountable from large corporations to public officials and policy makers.[76]



As with women in decision-making, it is vital that women be represented in the media on climate change issues. The latest Gender and Media Progress Study (GMPS) on gender equality in the news media in Southern Africa found that out of 18,630 new items monitored for a month only 3% concerned climate change.[77] It is encouraging that there are almost equal numbers of women (49%) and men (51%) reporting on climate justice.[78] However women make up just 27% of those speaking about climate change in the media.[79]

[75] UNFCC, COP, Gender Composition report by the Secretariat, 7 October 2020
[76] Kenyan Institute for Ethics, https://kenan.ethics.duke.edu/the-media-is-at-the-center-of-fighting-climate-change/ accessed 9 Sept 2021
[77] Gender Links, SADC Voice and Choice Barometer, 2021, Chapter 10, Media, Information and Communication (2021), p26
[78] Ibid p17
[79] Ibid p26

Mitigation and adaptation measures for climate change

Article 31, 1b: State parties shall conduct research to access the different gendered impacts of climate change and put in place effective mitigation and adaptation measures.

Article 20.6: Protocol on Environmental Management for Sustainable Development: State parties shall, as part of their research agenda, include all aspects of gender in environmental management, risk assessment, emergency and disaster response, and other sustainable development initiatives.

There is a need to consider the different impact of climate change on women, men, boys and girls, in designing mitigation strategies. "It is not about simply adding a 'woman's component' or a 'gender equality component' to existing interventions for combatting climate change. The process entails that the perceptions, experiences, knowledge, interests, needs and priorities of males and females are given equal weight in planning and decision-making. It is also important to note that gender mainstreaming is contextual. Different contexts need to be informed by an effective gender analysis. This process plays a critical role in ensuring that women, men, girls and boys are not disadvantaged by climate change interventions. It allows for the collection of vital gender-disaggregated data that is needed to inform the various gender mainstreaming phases."[80]

Climate change mitigation

Climate change mitigations addressed the root cause of climate change through avoiding and reducing emissions of greenhouse gases to prevent the planet from warming to more extreme temperatures. In sum this means we must transition from fossil fuels to clean, renewable energy. We need to stop deforestation and extractive industries and restore our natural habitats. And we need to reduce our production and consumption patterns.

Contraception as strategy for climate change mitigation

By 2050, "the global population is expected to have increased to about 9.7 billion people, which evidently will be one of the significant drivers of greenhouse gas emissions and global climate change. Scholars advocate for population stabilisation or control as a viable way to address climate change and the associated impacts The prediction is that population stabilisation will likely contribute to a 30% to 40% decrease in emissions and subsequent decrease in global warming."[81]

[80] Bagabura, A. Gender Equality in Combating Climate Change: The African context. August 2019
[81] Share-Net International, Linkages between climate change and sexual and reproductive health & rights: a demographic perspective, 12 November 2019

Promoting contraception as a mitigation strategy for climate change is controversial for obvious reasons. It instrumentalises women's and girls' bodies and places emphasis and responsibility for tackling the climate crisis on those least responsible for contributing to it but most severely affected by its impacts. Policies and practices driven by a desire to stem population growth have led to countless human rights violations.[82]

However, over 200 million women want, but currently lack, access to modern contraceptives. As a result, 76 million unintended pregnancies occur every year. Meeting this unmet need could slow high rates of population growth, thereby reducing demographic pressure on the environment. There is now an emerging debate and interest about the links between population dynamics, sexual and reproductive health and rights, and climate change.[83]

The debate is an important one but should not shift attention away from the primary problem of high consumption in developed countries. The emphasis on population control or family planning as a strategy for climate change mitigation may exaggerate/ emphasize population increases without addressing other factors influencing climate change, such as consumption patterns and levels of economic development.[84]

What is needed is a social justice and rights approach for climate action that protects human rights, especially for the most vulnerable populations, and promotes justice, equity, and fairness.

Promoting green principles in waste management

Waste management already represents a key challenge in the SADC region. This will be exacerbated by climate change. Contributing factors are the increase in population and growing production of industrial and agriculture products.

The SADC Climate Change Strategy and Action Plan (CCSAP) proposes three key actions to be taken to mitigate the impacts of climate change:

- Develop policies that encourage investment in alternative energy production using waste products;
- Promote waste recycling, reuse and reduction;
- Develop an enabling framework to promote waste minimisation through education and behavioural change of waste generators and the general public.[85]

While policy makers develop policy it's local councils and communities on the ground that can take concerted action in waste management.

Sorting waste in Lesotho. Photo: Trevor Davies

[82] Ibid
[83] SADC Climate Change strategy and action plan, p35
[84] Share-Net International, Linkages between climate change and sexual and reproductive health & rights: a demographic perspective, 12 November 2019 https://share-netinternational.org/linkages-between-climate-change-srhr/ accessed 8 September 2021
[85] SADC Climate Change strategy and action plan (CCSAP), 24 July 2015, pp 31

Waste Management key to a clean city - Masvingo City Council, Zimbabwe

Masvingo City women in clean up campaign. Photo: Tapiwa Zvaraya

Masvingo city community ward health clubs were formed by the city in collaboration with Oxfam to help manage the city against Cholera. After the partnership, the council took ownership of the project by supporting the health clubs to carry out their various activities including recovery and recycling of the waste.

The city has been facing challenges on waste management issues. The amount of waste generated from the community and emanated from dumpsites became a burden to the city and a time bomb to disease outbreaks. The council seeks to reduce waste through recycling, reuse and reduction in order to increase the caring capacity of the refuse compactors of the city. The council is empowering the community by building the capacity of health club members through income-generating projects so they can earn a living. The community polices themselves against littering since they manage the cleaning.

The key activities of this intervention include street cleaning, paper picking in the respective ward's defined area, waste disposal and any other waste management services required by the council. In return, the council remunerates the community cleaners. Other income-generating activities include the sale of various artefacts, 3 legged ports, oil, and paving bricks made from collected and recycled waste.

Through these activities, the council has managed to clear all the illegal dumpsites. The community is now able to manage their waste at the household level through health education from the community members. The health club members are now able to pay council rates and services for their houses thus more revenue to the council. The biggest lesson coming out of this is that waste is money.

Source: Gender Links Zimbabwe Voice and Choice Summit Climate Justice case study 2019.

Climate change adaption

Climate change adaptation relates to the process of adjusting to actual or expected impacts of climate change. This means altering our behaviour, systems, ways of life, our economies, and the environment in which we live from the impacts of climate change. It fosters resilient communities, economies, and ecosystems by considering climate risks in decision making at all levels.

Climate change adaption plans and strategies cannot be gender neutral as climate change impacts people differently based on their roles and responsibilities in families, communities and societies, defined by gender, age, class, sexual orientation. By using an intersectional approach and understanding the particular and compounded barriers that people face, and how these exacerbate their vulnerability to climate

change, adaption strategies can reduce climate risks for the most vulnerable people while also tackling systemic inequalities.

Gender equality should be at the centre of analyses and policy decisions, programmes, financing, institutional structures and processes, implementation and monitoring and evaluation. "It is not about simply adding a 'woman's component' or a 'gender equality component' to existing interventions for combatting climate change. The process entails that the perceptions, experiences, knowledge, interests, needs and priorities of males and females are given equal weight in planning and decision-making. It is also important to note that gender mainstreaming is contextual. Different contexts need to be informed by an effective gender analysis. This process plays a critical role in ensuring that women, men, girls and boys are not disadvantaged by climate change interventions. It allows for the collection of vital gender-disaggregated data that is needed to inform the various gender mainstreaming phases."[86]

An important part of this process is to examine how norms and traditional beliefs related to gender have been institutionalised. "By acknowledging and confronting gender-related biases and barriers institutions, decision-makers can take an important step toward creating the conditions for gender equality and social inclusion in the policies, programs, and services that they deliver."[87]

No SADC country in the region has yet submitted a National Adaption Plan (NAP) established under the Cancun Adaptation Framework (CAF). The NAP process is about identifying medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs. However ten countries have developed National Adaptation Programmes of Action (NAPAs) for climate change.

Climate adaption plans and programmes of action should cover a range of sectors including agriculture, water, biodiversity, fisheries, health, security, settlements and infrastructure, tourism and mining and other extractive industries. Each of these issues affect women in particular ways and adaption strategies should address these different needs and circumstances.

Involving women and men in climate adaption, from planning to implementation is essential to ensuring that the final solutions will benefit the entire community. Women have a lot of knowledge and experience that is important and useful for adaption because of the roles they play in society and interaction with the environment.[88]

"Recent estimates suggest that implementing adaptation measures in the health sector could reduce the number of children at risk from chronic under-nutrition by 10 million in Sub-Saharan Africa, through improved disaster risk reduction measures that reduce vulnerability to extreme events such as flooding and droughts. A particular challenge from a climate perspective for the sector is the scant data available on the links between climate variables and disease patterns, which makes it difficult to design appropriate intervention and surveillance methods. Nevertheless, the most effective measures to reduce vulnerability to climate in the health sector in the near term are (a) promoting programs that implement and improve basic health system measures, such as the provision of safe water and improved sanitation, (b) securing essential health care, (c) increasing capacity for disaster preparedness and response, and (d) alleviating poverty.[89]

There is no explicit mention of SRHR in any of the health sections of the NAPAs, which focus on the spread of waterborne and vector diseases that are exacerbated by climate change. This is an obvious gap. While states must develop and implement gender aware NAPs, local communities have a key role to play in adaption efforts.

[86] Bagabura, A. Gender Equality in Combating Climate Change: The African context. August 2019
[87] Ibid
[88] Gender CC, Gender and Climate, https://www.gendercc.org.za/gender-climate/ accessed 20 September 2020
[89] USAID, Regional Factsheet, Climate Risk Profile Southern Africa, 2016

Madagascar: Climate change adaption means every day simple gestures

Fitobea Edwin won the 2019 Voice and Choice Summit award in the climate change category in Madagascar for an agricultural project he is implementing in a rural Fort-Dauphin council called Somangymiavotse. The project is in southern Madagascar where there is a growing hunger crisis because of climate change. Amboasary Sud is also included in the project.

The project promotes women's involvement in the male-dominated agriculture sector through market gardening as an income generating venture. This empowers them financially and ensures food security for families.

This project touches on three climate change rights, which are:

- The equal right between men and women to access land.
- The right to food and
- The right to food production.

The project involves three steps:

- A General Assembly conducted with traditional leaders to explain the importance of the work,
- Sensitisation and home visits to identify households able to engage in the process.
- Agricultural training on the leafy vegetable plantation.

Fitobea Edwin, National Summit Climate Change Category Winner 2019, Hotel le Pave, Madagascar. Photo: Zoto Razanandratefa

Women's groups in the Lutheran and Catholic Churches are partners in raising awareness. Men prepare the planting beds and dig the well required for the irrigation of the plantation. Women participants are empowered financially to solve their economic challenges in households. They also participate in environmental conservation and nutrition. Edwin's plan for the future is to expend the project within the association and to neighbouring villages.

Source: Gender Links Madagascar Voice and Choice, Summit Climate Justice case study 2019.

As the level of government closest to the people who are most vulnerable to and impacted by climate change, local government councils should be leading climate change adaption measures.

Lesotho: Council empowers women to address climate change

The land in Mafeteng Lesotho is naturally dry which means it is vulnerable to extreme climate change-related disasters such as strong winds, drought, flood and wildfires.

The council has encouraged its populace, especially women to form cooperatives; solicit external funding and use greenhouses to produce food as a climate change adaptation measure to ensure food security, reduce the number of people exposed to climate-related risks and susceptible to poverty. The council also aims to fight gender based violence through empowering women to provide food for their families and making them less vulnerable to abuse.

The council has introduced hail nets and greenhouses, economically empowering women and equipping them with agricultural skills; helping women ensure food security and curb malnutrition. The council helps project beneficiaries find market for their products.

In the face of declining water supplies, reduced agricultural yields, health impacts and erosion the council is working to curb overgrazing and burning. The council is also working with the ministry of water to fix old village taps and add more taps to reduce the water stress especially for women. The council is also working closely with the ministries of agriculture and of trade to encourage women to adopt innovative agricultural projects to mitigate the effects of climate change.

One of the greenhouses provided by the Mafeteng Urban Council.
Photo: Palesa Moleli

Source: Submitted by Mafeteing Urban Council as one of their projects, 2019.

Youth participation

Sixty percent of Africa's population is under 24 years old, making Africa the world's youngest population.[90] As the inheritors of the climate crisis youth have a crucial role to play in climate action, mitigation, adaption and policy-making. Governments should be working with youth-led and youth-focussed organisations to enhance effective participation of youth in climate change policy decision-making processes. This key constituency is however often neglected in policy processes and designing climate change responses.

The voice of youth has only recently become more prominent in the global response to climate change. Protest-oriented programmes, such as Fridays for Future, Earth Uprising and the Extinction Rebellion, have some key aims, which are, to

[90] United Nations, Department of Economic and Social Affairs, Population Division (2017). World Population Prospects: The 2017 Revision, Key Findings and Advance Tables. Working Paper No. ESA/P/WP/248.

enhance the voice of youth on climate change; address intergenerational climate justice and hold political leaders accountable for insufficient progress in addressing climate change.

Young people are establishing networks in schools, universities and communities, using social media, and a range of innovative communication strategies to raise awareness and better coordinate action and shape climate responses.[91]

While the representation of youth in formal negotiations is growing there is need to increase young people's participation in strategy formulation and implementation. More work is needed to understand what intergenerational equity and meaningful youth participation means and how it can be practised.

Zambia: Action and youth involvement in climate change

Sr Chanda Nsonfwa, Lungu Collins, Fr Chris Kunda and Mwansa Muhandu at Radio show to raise awareness on climate change and Environmental issues in Zambia. Photo: Albert Ngosa

Zambian youth are working with the media to raise awareness about climate change and the environment to change the mind-set of the general public.

Often people do not know of the effects of our human actions have on climate change. People also do not know the ways in which they can take part of the solution to restore the earth and make a better future. For people to change they need to change their mind-set first, they need to realize the problem and work towards solving it. This is why the focus of the action is knowledge creation and awareness raising.

The Global Catholic Climate movement Zambia Chapter is raising awareness through the radio programs aired on Radio Maria Yatsani voice 99.3FM every Thursday. The radio programme had a major impact because it started at a time of COVID-19 when people were listening to radio more because they were often at home. The programme started as a recorded programme and then became a live show in which people would phone in and give their ideas.

They also have a weekly TV Show that airs every week at Wednesday 18:30hrs. This show has from March featured different guests who have discussed topics all related to climate change and the environment. We have conducted trainings for Youths at Cicetekelo Youth Project in Ndola and St Francis of Assisi School.

The Lumen TV programme on climate change has since grown through a "See, Judge, Act" method which makes people see the problem, judge the extent of the problem and take action. It draws examples from the community, globally and locally. Individuals and organisations discuss their role in climate action and bringing about change.

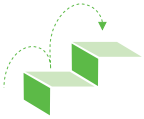
The aim is to help people understand that there is something they can do to bring about change. They stream all their TV shows through Facebook page reaching a wider audience. The Global Catholic Climate Movement Zambia

[91] Benkenstein A, Chevallier R, Kosciulek D, Lebea, D & Worth K, Youth Climate Advocacy, Special Report November 2020

Chapter has contributed to the development of the Climate Change Bill which The Ministry of Lands and Natural Resources had asked for inputs. "We put our ideas together and sent a document to the Ministry for the consideration. This has helped us take part in lobbying with the government to being issues that affect climate to consideration in Policy and Law making" says Collins Lungu of the Global Catholic Climate Movement Zambia Chapter

Lungu adds, "There is much need for our movement to come up with ways of sustaining our programs and bringing more awareness through community work and community physical awareness building. We have learnt that advocacy is more impactful through videography and Photography and people pay more attention to audio-visual content and other forms of technology. We intend to enhance our viewership on social media and mainstream media by use of these two means. We will enhance our content to being more and more awareness to the communities to see the change we desire."

Source: Gender Links Voice and Choice Zambia Summit entry, 2019.



Next steps

- It's time for action, while policy is important to guide adaption action, and States should comply with international regulations, it is now time for governments and communities to step up the action and commitment to addressing climate change.
- Gender should be a key consideration in setting policy and strategy on climate change, as responses cannot be gender neutral and must address women's specific needs and circumstances by addressing structural barriers to gender equality in climate change policies and actions.
- Strengthen evidence base on the links between SRHR and climate change. This is key to creating effective adaption and mitigation strategies that meet the particular needs of women.
- Make specific provision for SRHR in adaption and mitigations strategies ensuring universal access to SRHR services should be part of a comprehensive health response to the climate crisis.
- Gender mainstreaming in adaption and mitigation strategies should address women's needs across all sectors - agriculture, water, energy etc.
- Improve women's access to land, by adopting gender-responsive land reforms and ensure equal access to productive resources, finance and technology.
- Invest in and increase women's representation and effective participation in climate change decision-making from local to global level. As the most impacted by climate change it is essential that they are represented and fully participate in all aspects of climate change action from community involvement to global negotiations and policy making. Instead of being seen as victims of climate change impacts, they should be seen as part of the solution, with specialised knowledge and capacities to influence and shape effective gender-responsive climate change actions.
- Invest in health systems that address the underlying causes of vulnerability to climate change.
- Promote and strengthen community involvement in climate response ensuring gender balance, multi sector participation and collaboration between the climate change, health, and women's rights advocacy and humanitarian communities.
- Enhance education and awareness-raising at all levels in relation to climate change impacts and adaption approaches. Governments, in partnership with civil society organisations,

should create greater awareness and understanding of the relevance of gender equality in the fight against climate change.
- Increase advocacy and campaigning and maximize this through different communication channels including online social media platforms, using material that is appropriate for different demographics, specifically on language.
- Build and strengthen capacities on climate change issues at all levels from accessing and harnessing capacity building programmes at the international level to outreach programs on climate change for citizens in both urban and rural areas; empowering regional networks and facilitating sharing of experiences, information and documenting best practices on climate change responses in SADC countries.

Community members test a solar powered cooker in South Africa. Photo: Gender Links

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