



SADC Futures
Developing Foresight Capacity
for Climate Resilient
Agricultural Development

Final technical report

December 2020



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



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CCARDESA
Centre for Coordination of Agricultural Research and Development for Southern Africa

SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development

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Project: SADC Climate Risk Analysis and Climate Resilient Development Pathways

GIZ Contract No. 81250423

Recipient: International Livestock Research Institute (ILRI)

Start date: 1 December 2019

Ending date: 16 November 2020

Final budget cost: Euro 362,579

Objectives of the work

The aim of the work carried out under this project was to support SADC and its member states, through a tailored online training approach, to develop plausible future-oriented climate-resilient pathways for sustainable and equitable economic growth and socio-economic development, with a special focus on the agriculture sector and linkages with natural resources. The original design of the project was, in collaboration with CCARDESA and the SADC Secretariat, to develop and deliver modular capacity development workshops, so that stakeholders could gain key technical capacity in formulating participatory socio-economic scenarios using a guided, mixed qualitative-quantitative foresight toolkit, with special emphasis to build capacity on using futures/foresight approaches and scenario methods for regional policy planning and prioritization.

In light of the global COVID-19 pandemic and widescale national and regional travel restrictions, the project had to innovate with a regionally-tailored virtual training series, bringing in activities for participatory scenarios and foresight processes to help develop a common, normative vision among stakeholders for future regional integration within SADC that could then be used as the basis for identifying climate-resilient development pathways for the region.

The specific project objectives were to:

1. Develop a comprehensive climate risk analysis and socio-economic scenario narratives with the virtual participation of state and non-state stakeholders for the SADC region, and develop a modular training series, designed with mixed qualitative-quantitative methods to evaluate likely future outcomes of the scenarios to form climate-resilient development pathways for SADC;
2. Strengthen the capacity of SADC state and non-state actors through a tailored website, webinar series and associated toolkit for scenario guided policymaking, strategic planning, regional prioritization and foresight in the context of climate change; and
3. Advocate for an integrated regional approach to support the SADC Common Agenda and regional climate action.

Project activities and outputs

The work was organised around six work packages, as follows.

Work Package 1: Project management (Lead: Dr Philip Thornton, CCAFS-ILRI)

A part-time project manager oversaw the provision of appropriate administrative and scientific backstopping as needed, along with the preparation of financial and technical reports. Other ILRI and CCAFS staff provided additional logistical, analytical, technical, editing and communications support as needed, particularly around the recruitment and management of the eight consultants who contributed to the work.

Work Package 2: Climate risk analysis for the SADC region (Lead: Dr Claire Quinn, University of Leeds)

This work package produced a rapid climate risk assessment for the SADC region, building on similar work done previously in the region. This rapid climate risk assessment (Quinn et al. 2020) used the Intergovernmental Panel on Climate Change (IPCC) 2014 risk analysis framework to assess the distribution of climate hazards and social and biophysical vulnerability to those hazards in order to identify climate risk hotspots. The assessment used regional climate models from CORDEX-Africa to map rainfall extremes and drought hazards to 2031–2059. Ten social and biophysical vulnerability indicators were identified from across the capital assets (human, physical, social, financial, natural), using data from the Global Multidimensional Poverty Index (MPI), to develop a vulnerability index. The vulnerability index and distribution of climate hazards were mapped to identify indicative hotspots under two greenhouse gas emissions scenarios, RCP4.5 and RCP8.5. Medium-to-high climate risk, as a combination of high vulnerability and medium-to-high climate hazard, is widespread, particularly across Angola, Democratic Republic of the Congo (DRC), Tanzania, Mozambique, and Madagascar. A draft of the report was presented in a webinar in September 2020 to a wide range of stakeholders invited to attend (Table 1). The report was then finalised in response to feedback from the webinar and email correspondence, including the addition of a section that compares results with previous studies in the region.

Table 1. WP2 & WP3 report validation webinar attendance statistics (17 September 2020)

Number of people registered:	45
Number of people attending:	32 + 6 panelists

Countries represented

Country	Number of participants	Country	Number of participants	Country	Number of participants
Botswana	2	Malawi	2	USA	1
Eswatini	1	Mozambique	1	Zimbabwe	1
Germany	4	Namibia	4		
Madagascar	1	South Africa	15		

Work Package 3: SADC futures: major trends (Lead: Dr Leslie Lipper)

In this work package, information was assembled on the futures and foresight work that has already been undertaken for the SADC region, including other sectors as well as agriculture. The resulting report (Lipper and Benton 2020), which built on a series of national workshops and analyses, documents a set of mega-trends at the regional level that define social, economic, political and environmental conditions relevant to the SADC region. It includes analysis of the recent past as well as projections of future trends, to give a snapshot of current conditions in the Southern African region and the dynamics that generated them, to inform the design and implementation of investments to secure climate-resilient agricultural livelihoods in the future. The report also provides guidance on how the information can best be used in making plans for the future. There is considerable uncertainty over how several of these mega-trends will play out in the near future, with the possibility of major disruptions and changes on the horizon. This has been clearly illustrated with respect to the COVID-19 pandemic, which has disrupted many people's expectations of future conditions. To address deep uncertainty about the future, the development of scenarios to identify a range of plausible futures is an important tool for decision-makers. The report gives examples of recent scenario work in the region to illustrate how the analysis of mega-trends and their uncertainties can be useful in strategic decision-making under uncertainty. These examples include the work of the Agricultural and Food-system Resilience: Increasing Capacity and Advising Policy (AFRICAP) program funded by the UK's Global Challenges Research Fund (GCRF) involving a wide range of partners and being implemented in Malawi, South Africa, Tanzania and Zambia. A draft of the report was presented in a webinar in September 2020 to a wide range of stakeholders invited to attend the webinar (Table 1). The report was then finalised in response to various comments made. This work package also saw the development of another report (Lipper 2020) on the use of scenarios for informing the development of climate-resilient development pathways in the SADC region, used as training material in WP4.

Work Package 4: Foresight Training Webinar Series (Leads: Sabrina Chesterman, Dr Constance Neely)

A six-part modular webinar series, building on the reports produced in WP2 and WP3, was designed and delivered on six successive Wednesday afternoons from 17 June to 22 July 2020. The modules were as follows:

- Module 1: Introduction to foresight
- Module 2: Understanding trends and multi-sectoral and systems linkages
- Module 3: Visual and causal analysis
- Module 4: Building scenarios
- Module 5: Scenario implications and transformational change
- Module 6: Review and applying the SADC Futures foresight training

Recordings of each of the webinars are available online (see https://bit.ly/SADCFutures_videos). The webinar series was widely publicised using a flyer developed by the project team (see https://bit.ly/SADCFutures_Flyer). Statistics on webinar attendance are shown in Table 2 and Figure 1. Fifty-six people attended at least five of the six webinar sessions over the six weeks, which highlights the value attendees placed on the training. Approximately one-third of the webinar attendees were from research and academic organisations (23-24 people on average), followed by attendees from local and national government organisations (6-7 people on average) and NGOs (6-7 people on average). There were also attendees from the private sector (4 people on average), from development partners, investor and donor organizations (2-3 people per webinar) and a small number of farmers, pastoralists, and attendees from fisheries and forestry organizations (2-3 people per webinar). There were a few participants from intergovernmental organisations (FAO, UNEP), from the SADC Secretariat (1 person in a few webinars), and a few attendees with other

backgrounds such as the media. The breadth of participation was considerable, and the high number of participants for each webinar was maintained over the six weeks.

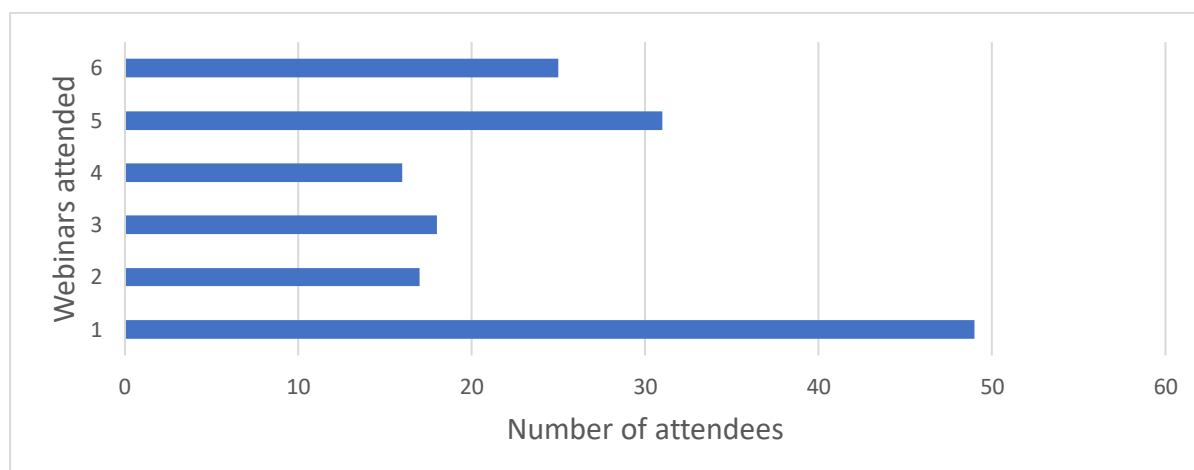
Table 2. Webinar series attendance statistics

Number of people registered for the webinar series:	700
Number of regionally based people selected to attend the webinar series:	240
Number of people attending at least 1 webinar:	156
Average number of attendees each webinar:	80-90

Countries represented

Country	Number of participants	Country	Number of participants	Country	Number of participants
Angola	3	Lesotho	8	Tanzania	5
Botswana	9	Malawi	7	Uganda	1
Canada	2	Mozambique	8	UK	4
DR Congo	2	Namibia	4	US	3
Eswatini	7	Nigeria	1	Zambia	15
Germany	1	Rwanda	2	Zimbabwe	23
Italy	2	South Africa	40	Unknown	8

Figure 1. Number of participants attending different numbers of webinars



Work Package 5: A Futures and Foresight toolkit (Lead: Sabrina Chesterman)

For this work package, all the webinar materials from WP4 were assembled into an accessible toolkit (Chesterman et al. 2020a). The toolkit includes learning exercises, learning reflections and key questions for readers or participants to work through. It also contains some of the questions raised by webinar participants along with edited responses from the webinar presenters and other team members. It can be downloaded as one large file (see at <https://bit.ly/SADCFuturesToolkit>) or as separate modules. A tailored knowledge series that accompanies the webinar toolkit was assembled, including the reports from WP2 and WP3 and the following additional reports:

- A historical analysis of climate change and agriculture events in the SADC region, 1970-2020 (Chesterman et al. 2020b).
- Systems analysis and sectoral linkages impacting climate resilient development in the SADC region (Chesterman et al. 2020c).
- Climate-resilient development pathways (Chesterman et al. 2020d).
- Structures, policies and stakeholder landscape relevant to climate change and agriculture in the SADC Region (Chevallier et al. 2020).

In addition to these reports, a policy brief was published on applying foresight for enhanced climate resilience and agriculture policy development in the SADC region (Chevalier et al. 2020b), and an information brief on agriculture in the SADC region under climate change (Gosling et al. 2020). All materials relating to the SADC Futures Project are available from one landing page on the CCAFS and CCARDESA websites (see at <https://bit.ly/SADCFuturesResources>).

Work Package 6: Production of training website with open access knowledge portal for training resources (Leads: Alex Benkstein, Sabrina Chesterman)

To increase the legacy value of all the materials assembled during the project, WP6 involved the development of a dedicated training orientated micro-site that users can access to go through the training webinar series. It was developed on the TalentLMS platform, which allows users to access the training modules even when connectivity to the internet and mobile phone networks is poor. Modules can be downloaded on to the user's computer or mobile phone when in range, so that users can undertake the learning wherever they are. Once back in range, responses and questions are uploaded to the platform, and in this way the training can be completed. A certificate is awarded on completion of the course. This is an interactive and innovative way for users to learn about the fundamentals of foresight in their own time. Because of the need for relative simplicity in what be a connection-constrained environment, the structure of the e-learning course is slightly different from the webinar series. There are seven modules:

- Module 1: Input - Understanding the context
- Module 2: Analysis - What is happening?
- Module 3: Interpretation - Why is it happening?
- Module 4: Planning - What do we want to experience in the future? What might get in our way? What can we do to get there?
- Module 5: Prospection - What might happen that we have not thought about?
- Module 6: Reflection - What might we want to do differently?
- Module 7: Strategy - What will we do differently?

Each module takes approximately 20 minutes to complete, with the entire course taking two and a half hours in total. The e-learning course is available from the CCARDESA and CCAFS websites (https://bit.ly/SADCFuturesE-learning_CCAFS), linking to the TalentLMS platform (<https://bit.ly/SADCFuturesE-learning>). Numbers of participants who have undertaken the e-learning course to date are shown in Table 3.

Table 3. E-learning course participant statistics to date

Number of people registered / currently completing:	174
Number of people who have completed the course:	37

Countries represented

Country	Number of participants	Country	Number of participants	Country	Number of participants
Algeria	1	Germany	1	Nigeria	6
Angola	1	Ghana	5	Pakistan	1
Australia	1	India	2	Philippines	1
Bangladesh	1	Italy	1	South Africa	2
Benin	1	Kenya	1	Tanzania	1
Botswana	1	Malawi	1	Zimbabwe	2
Brazil	1	Namibia	1		
Cote d'Ivoire	1	Nepal	2		
Ethiopia	1	Netherlands	1		

Summary of project outputs

A summary of project deliverables is shown in Table 4, with URL links to the materials. The size of several of these documents is very large, so they are not appended to this report but can be downloaded where indicated in the table.

Table 4. Project deliverables

#	Title	Type	Reference	URL
1	Report: Rapid climate risk assessment for the SADC region	WP2 report	Quinn et al. (2020)	https://bit.ly/SADCFuturesClimate-Risk-Assessment
2	Mega-trends in the Southern African Region	WP3 report	Lipper and Benton (2020)	https://bit.ly/SADCFuturesMega-Trends
3	SADC Futures Training Series	Project flyer	-	https://bit.ly/SADCFuturesFlyer
4	Foresight training webinars	Training series	-	https://bit.ly/SADCFutures
5	Toolkit for Developing Skills and Capacity in Applying Foresight to Climate Resilient Agricultural Development in the SADC Region	Toolkit	Chesterman et al. (2020a)	https://bit.ly/SADCFuturesToolkit
6	An online e-learning course that covers the webinar material freely available on the internet and on mobile phone	E-learning course	-	https://bit.ly/SADCFuturesE-learning

7	What are scenarios telling us about developing climate-resilient pathways in the southern African region?	Report, supporting material	Lipper (2020)	https://bit.ly/SADCFutures_Scenarios
8	Structures, policies and stakeholder landscape in the SADC region	Report, supporting material	Chevalier et al. (2020a)	https://bit.ly/SADCFutures_StructuresPoliciesStakeholders
9	Historical analysis of climate change and agriculture events in the SADC region 1970 - 2020	Report, supporting material	Chesterman et al. (2020b)	https://bit.ly/SADCFutures_HistoricalAnalysis
10	Systems analysis and sectoral linkages impacting climate resilient development in the SADC region	Report, supporting material	Chesterman et al. (2020c)	https://bit.ly/SADCFutures_SystemsAnalysis
11	Climate-resilient development pathways	Report, supporting material	Chesterman et al. (2020d)	https://bit.ly/SADCFutures_CRDPs
12	Applying foresight for enhanced climate resilience and agriculture policy development in the SADC region	Policy brief	Chevalier et al. (2020b)	https://bit.ly/SADCFutures_PolicyBrief
13	Agriculture in the SADC region under climate change	Information brief	Gosling et al. (2020)	https://bit.ly/SADCFutures_InfoBrief

Partnerships and regional engagement

The lead executing partner for the project was the International Livestock Research Institute (ILRI), along with:

- CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) through its Flagship on Priorities and Policies for Climate-Smart Agriculture (led by the International Livestock Research Institute) and its Scenarios Unit (led by the Copernicus Institute for Sustainable Development at Utrecht University), with strong capacity for technical backstopping;
- SADC Secretariat as ACCRA's political implementation partner and its convening power on all matters relating to regional integration, sustainable socio-economic development and climate resilient pathways; and
- Centre for Coordination of Agricultural Research and Development for Southern Africa (CCARDESA) as ACCRA's implementing partner and its convening power and knowledge brokerage mandate for agricultural research and development.

During the project, members of the project team followed up directly with some of the webinar training participants in several countries, to assist practitioners and government focal points in integrating foresight methodologies into their work. Links were forged with SADC-FANR and the SADC Climate Change Strategy Review process, via the Bemani Group, consultants implementing the Climate Change Strategy Review process for the SADC Secretariat. The project policy analyst was subsequently invited to membership of the SADC Climate Change Strategy Review Expert Group, specifically to provide updates on agriculture and youth in the Strategy. The review is expected to be completed by the end of 2020.

Several team members also made substantive inputs in early 2020 to the SADC Vision 2050 and Regional Indicative Strategic Development Plan (RISDP) 2020-2030. The Vision 2050 sets out the long-term aspirations of SADC over the next 30 years while the RISDP 2020-30 outlines the proposed development trajectory for the region until 2030. Both documents were approved by the 40th Ordinary Summit of the SADC in August 2020.

The document on mega-trends in the SADC region was amplified with material from the AFRICAP regional project (see WP3 above), as scenario processes had recently been carried out in several countries in the region; this is thus a joint publication with Chatham House (Royal Institute of International Affairs), London.

During the project, other linkages were made with several new regional initiatives either just starting up or in the design phase. These include:

- The European Union flagship initiative Global Climate Change Alliance Plus (GCCA+).
- The Comprehensive Africa Agriculture Development Programme ex-Pillar 4 (CAADP-XP4) program led by CCARDESA with funding from the EU / IFAD, to enable agricultural research and innovation (including extension services) to contribute effectively to food and nutrition security, economic development and climate mitigation with a focus on Botswana, Eswatini, Namibia, Mozambique, Tanzania, Zambia and Zimbabwe.
- The Southern Africa regional challenge of the CGIAR Two-Degree Initiative being led by IWMI, which is still in the early design stage.

There are many opportunities for aligning potential future training and research activities with such programs, to add value to these and other initiatives in the region.

Future work

Two specific follow-up activities are planned for 2021, which will be carried out by CCAFS. One will be a review of policy processes ongoing in 2020, to investigate any impacts the project may have had on these. A second will be a follow-up in mid-2021 with a random selection of participants from the webinar series and e-learning course, to find out whether the training/learning materials have been useful, and if so, how they are being applied. The results of this will be useful in relation to the value of the online training and, particularly, the e-learning platform, to help guide decisions in mid-2021 regarding future investment in the TalentLMS platform.

In the original design phase of the project, five measurable targets were set out:

1. Development of a new climate risk analysis with identification of climate risk hotspots that can feed into regional information systems;
2. Development of a micro-site that serves as a knowledge centre for state and non-state stakeholders to participate in a modular set of training webinars and linked activity programs;
3. A participatory scenario development process, captured as a Futures and Foresight Toolkit for the SADC region to facilitate future capacity building with respect to regional and national policy action;
4. Training modules with participatory input on defining key criteria for climate-resilient, robust development pathways (CRDPs), reviewed against narratives for the region and options under different policy processes developed by and evaluated with stakeholders to determine practical policy recommendations.
5. A micro-site with recordings of facilitated webinars and easy-to-access knowledge products as a modular training series, accessible via the CCARDESA ICKM system and allowing open access to training materials for stakeholder groups regionally.

Despite the ravages of the COVID-19 pandemic, these targets have largely been met, although holding the series of face-to-face meetings that was originally planned would have contributed substantially to target 4 above, so the development of genuinely participatory CRDPs is still “work in progress.” The year 2020 has highlighted, like few others, the continuing need for foresight to stress test policies and institutional and governance mechanisms, as well as the prioritisation of climate investment decisions and the development of robust, specific interventions and climate proofed strategies that address adaptation and mitigation goals at national and regional levels.

Project reports citations

- Chesterman S, Neely C, Gosling A, Quinn C, Chevallier R, Lipper L, Thornton P. 2020a. Toolkit for Developing Skills and Capacity in Applying Foresight to Climate Resilient Agricultural Development in the SADC Region. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Chesterman S, Neely CN, Gosling A. 2020b. Historical Analysis of Climate Change and Agriculture Events in the SADC Region 1970 - 2020. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Chesterman S, Neely C, Gosling A. 2020c. Systems analysis and sectoral linkages impacting climate resilient development in the SADC region. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Chesterman S, Neely CN, Thornton P, Pereira L. 2020c. Climate-Resilient Development Pathways. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Chevallier R, Gosling A, Chesterman S. 2020a. Structures, policies and stakeholder landscape relevant to climate change and agriculture in the SADC Region. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Chevallier R, Benkstein A, Chesterman S, Thornton P, Neely C. 2020b. Applying foresight for enhanced climate resilience and agriculture policy development in the SADC region. Policy Brief. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Gosling A, Thornton P, Chevallier R, Chesterman S. 2020. Agriculture in the SADC Region Under Climate Change. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Lipper L. 2020. What are scenarios telling us about developing climate-resilient pathways in the southern African region? SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Lipper L and Benton TG. 2020. Mega-trends in the Southern African Region. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.
- Quinn C, Carrie R, Chapman S, Jennings S, Jensen P, Smith H and Whitfield S. 2020. Rapid Climate Risk Assessment for the SADC Region. SADC Futures: Developing Foresight Capacity for Climate Resilient Agricultural Development Knowledge Series. CCAFS Report. Wageningen, the Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.

Project team

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