

**AGRISA STATEMENT OF RECOGNITION
FOR A CLIMATE CHANGE STRATEGY
FOR AGRICULTURE**

**NATURAL
RESOURCES**



Facilitated by
AgriSA



AgriCulture
SOUTH AFRICA / SUID-AFRIKA

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Definitions¹

Adaptation	The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.
Adaptive capacity	The ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences;
Climate change	Refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.
Climate-smart agriculture	Climate-smart agriculture (CSA) is an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in changing climate. CSA aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change, and reducing and/or removing greenhouse gas emissions, where possible.
Greenhouse gas (GHG)	The gaseous constituents of the global atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.
Mitigation	A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs).
Regenerative agriculture (CA/RA);	The application of CA/RA increases the carbon sequestration and retention in soil and vegetation, as well as reduces the GHG emissions generated on-farm.

¹ The definitions referred to in this strategy are from the National Climate Change Adaptation Strategy (2019), the Climate Change Bill (B 9—2022) as well as the *National Environmental Management Act* 107 of 1998.



Sustainable development	The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations;
Vulnerability	This mean the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes.

Preamble

Climate change poses a great threat to agricultural production across various regions. It is acknowledged by AgriSA and its affiliated members that:

- Every person in South Africa has a fundamental right to an environment that is not harmful to his or her health and well-being. Present and future generations are entitled to the protection of the environment.
- Anthropogenic climate change is a scientifically proven and internationally accepted phenomenon.
- Climate change is acknowledged as one of humanity's greatest threats, particularly in respect of food security.
- Climate change has historically been caused by industrialized countries. This disproportionately impacts the capacity of developing countries, including South Africa and it is neighbouring countries, to respond to the effects of climate change while attaining economic growth and development.
- The Southern African region is anticipated to be one of the most significantly affected regions to bear the harmful consequences of climate change. This is due, amongst other things, to the region's significant reliance on already highly stressed water resources.
- Unsustainable agricultural practices, including the over-use of natural resources and practices that contribute to land degradation, contribute to and exacerbate the effects of climate change.
- As a global phenomenon, climate change requires the international community, governments and sectoral role-players (including the food production value chain) to collectively address the challenges associated with it.
- Climate change response strategies entail mitigation (addressing the causes) and adaptation (addressing the effects).

AgriSA and its affiliated members accordingly commit to:

1. Adherence to applicable international and regional commitments as well as national laws and policies governing climate change.
2. Participation in governmental and private sector forums and initiatives dealing with climate change and risk management practices.
3. Ensuring effective implementation of approved national sector-specific plans and strategies dealing with climate change.



4. Ensuring the inclusion of the South African agricultural sector in international, regional and national climate change negotiations.
5. Promoting effective and sustainable mitigation and adaptation strategies for the agricultural sector to deal with the causes of climate change and to be more resilient to the consequences of climate change.
6. Given the South African context, to seek the progressive implementation of sustainable food production practices, including the reduction of food waste, that mitigate the sector's contribution to climate change.
7. To limit adverse financial and economic consequences associated with mitigation and adaptation measures to climate change, including carbon tax, in order to ensure food security.
8. To promote and enhance implementation of risk reduction, response and resilience plans and strategies through AgriSA's Risk and Disaster Management Unit.
9. Fostering and strengthening a relationship of responsible citizenry, accountability and mutual trust with government towards addressing climate change.

Purpose

The importance of having a mandated position on climate change ensures that AgriSA is clear and consistent with respect to its position on climate change policy and legal development as it affects the agricultural sector. The strategy on climate change is to guide AgriSA's actions on the agricultural sector's response (mitigation and adaptation) to climate change.

National efforts on sustainability and climate action shall be science-based and shall not unnecessarily hinder the critical role agriculture plays in achieving national food security.

The potential outcomes of an effective agriculture climate change strategy will improve climate resilience and water use efficiencies lead to more stable, guaranteed yields, greater protein levels (in grain), increased ability of crops and animals to tolerate drought and hot conditions, and in irrigated lands, reduced volumes of water required to achieve equivalent yields to conventional practices.

This climate change statement of recognition for agriculture should aim to address the following sectors:

- Agronomy
- Horticulture
- Animal production

MAJOR CLIMATE CHANGE STRATEGIES

1. Mitigation

Despite agriculture's relatively minor contribution to the total South African GHG emissions, the sector must contribute to emission reduction efforts. Agricultural GHGs emissions include Nitrous oxide (N₂O), Methane (CH₄) and Carbon dioxide (CO₂) of which the overall agricultural, forestry and land-use sector contributes 3.7% of the total GHG emissions according to the [2017 GHG inventory report](#) by the Department of Environment, Forestry and Fisheries.





It is acknowledged that the following are examples of mitigation elements within agriculture:

- Encourage CA/RA;
- Maximize soil as a carbon sink;
- Reduce synthetic fertiliser usage;
- Reduce fossil fuel consumption encourage liquid fuel by switching to renewable fuel or electric;
- Improve livestock and manure management practices (including grazing) and reduce enteric fermentation;
- Encourage the use of renewable energy in the form of solar, wind and other future renewable energy sources from farms to minimise the emission of GHGs.
- Encourage improvements in energy efficiency on farms and across the value chain.

2. Adaptation

Sustainability, environmental, climate and food security issues have only become more acute with the exponential and anticipated risks associated with climate change. According to the Intergovernmental Panel on Climate Change (2018), agriculture production will be one of the sectors most severely affected by the impacts of climate change. Agriculture is also a solution to addressing sustainability and climate change issues.²

It is acknowledged that the following are examples of adaptation elements within agriculture:

- CA/RA;
 - CA/RA farming methods contribute to climate change adaptation by qualifying as sustainable climate-resilient farming systems through improved water infiltration, retention and usage, thus contributing drought and dry spell resilient farms, reduced wind and water erosion risk through soil coverage and maintaining a live-root in the soil. Through implementing a diversified range of agricultural production, one also reduces climate risk
- Reduce water loss in the form of runoff, deep drainage and evaporation;
- Reduce soil water erosion;
- Measures to reduce vulnerability to risks linked to erratic and declining rainfall;
- Stores rainwater for longer periods against long mid-season dry spells and multi-year droughts;
- Maximizes the use efficiency of water and plant nutrients;;
- Use of shade nets, windbreaks and controlled climate greenhouses within horticulture;
- Identification of new optimum growing areas and planting windows for each crop to suit the changing climates;
- Shifting to use of stress (e.g. heat, drought) tolerant cultivars (biotechnology);
- Protect and restore biodiversity;
- The usage of early warning systems by farmers;
- Remove foreign/invasive plant species by farmers as well as by Working on Water; and
- Protect and preserve wetlands and riparian zones.

² Cairns Group Farm Leaders Statement of Intent on World Trade Organisation agricultural reforms - May 2022



3. Climate-smart agriculture

The section comprises of both climate change mitigation and adaptation interventions:

3.1 Climate-smart agricultural systems

- Agroecology
- CA/RA (integrated crop livestock systems)
- Non-selective grazing systems on natural veld and planted pastures
- Permaculture
- Agroforestry
- Rainwater harvesting and home gardens
- Urban agriculture
- Minimise food waste

3.2 Soil management

Integrated Soil Fertility Management (ISFM) consists of the following:

- Maximization of nutrient use efficiency
- The enhanced access of soil nutrients to plant roots
- The response of soil as a living ecosystem
- The role of sound locally adapted soil management practices enhancing ecosystem functions and services leading to improved soil fertility
- Well-adapted, disease- and pest-resistant germplasm
- Precision chemical application
- Precision nutrient management
- Other good agricultural practices

3.3 Agricultural water management

- Improve water use efficiency (more crop/meat per drop) or less water usage to achieve the same yields
- Reduced tillage
- Soil surface cover with crop residues and plants to reduce water erosion and increase water retention and storage in the soil, amongst other beneficial factors
- Rainwater harvesting (roof, soil surface and in-field)
- Runoff management and erosion control, e.g. drainage and channelling of excess water through contours, erosion structures, etc.
- Irrigation water use efficiency and precision scheduling
- Use of satellite and drone products to optimise irrigation

3.4 Agronomy

- Climate-smart crops such as drought-tolerant cultivars
- Rotation of crops, intercropping and cover cropping
- No-till planting
- Livestock integration (on annual or perennial pastures)
- Crop residue retention on soil surface
- Higher crop densities



- Maximising photosynthetic capacity and living roots through cropping systems
- Perennial pastures and green fallow systems in rotation with cash crops

3.5 Animal production (Livestock)

- Short, non-selective (ultra-)high-impact grazing with long rest periods for increased water use efficiency, higher biodiversity and higher biomass and meat production
- Adapted breeds and genetic improvement for ultra-high density grazing and dryer, hotter climatic conditions
- Diversification (stacking) of crop-livestock systems.
- Improved manure management and higher-quality feed
- Reduction of methane emissions and carbon sequestration

3.6 Horticulture

3.7 Climate-smart technology

- Integrated pest, disease and weed management
- Integrated Soil Fertility Management, including biological and organic soil fertility amendments (see above)
- Undercover farming
 - Smart farming/Precision agriculture methods
 - IoT technology
 - Drone technology
 - Satellite products
 - Sensor technology
 - Variable-rate technology

4. Climate finance and development

- Development funding by various commercial banks, development banks, development finance institutions and other international funding agencies.
- Blended finance solutions, such as Restore Africa Funds, to fund the adoption of CA/RA by incorporating various stakeholders from the private, public and development finance (as mentioned above) sectors to co-invest in sustainable agricultural enterprises.
- Multilateral Climate Funds:
 - Adaptation Fund
 - Green Climate Fund

5. Carbon tax

- Agriculture is not directly impacted by the first phase of the carbon tax which will be extended by three years for the period 1 January 2023 to 31 December 2025.
- Carbon credits and offset opportunities exist within agriculture by reducing on-farm fuel, fertiliser and other inputs and increasing SOC through soil carbon sequestration.
- Limit carbon taxes on Agriculture, Forestry and Other Land Use sector (AFOLU) through interaction with Business Unity of South Africa (BUSA) and the Presidential Climate Commission (PCC).



- AgriSA to formulate an updated position on carbon tax for the agricultural sector in cooperation with Economic Centre of Excellence.

6. Climate Change Bill

- The Climate Change Bill will become enacted in 2023.

7. Sustainable energy/renewable energy

- Project implementation by Agri Enterprises for developmental projects in solar or wind electricity generation.
- Policy developments will be in cooperation with AgriSA's Economic Centre of Excellence.

8. Disaster risk management strategies

- Collaboration with National Disaster Management Centre (NDMC) and Department of Agriculture Land Reform and Rural Development (DALRRD), Directorate: Climate Change and Disaster Risk Reduction on risk reduction and response.
- Early warning systems: information supplied through DALRRD, Directorate: Climate Change and Disaster Risk Reduction, South African Weather Service (SAWS) and Agricultural Research Council (ARC).
- Insurance: affordable index insurance for farmers (emerging, small-scale and commercial).
- Engaging with NDMC and DALRRD on state-aided disaster aid and establishing private-public partnerships.
- AgriSA Disaster Relief Foundation to provide disaster aid to affected farmers and farmworkers through campaigning.

9. Government department interactions

- Department of Environment, Forestry and Fisheries
- Department of Water and Sanitation
- Department of Agriculture, Land Reform and Rural Development
- Department of Cooperative Governance and Traditional Affairs
- Department of Minerals and Energy
- Department of Science and Innovation
- National Disaster Management Centre

10. Strategic partners

- Provincial Chamber
- Commodity Chamber
- Corporate Chamber
- Commercial and developmental banks
- Research institutions

11. Strategic institutions and networks

- SACAU
- NEDLAC



- BUSA
- Environmental Lawyers' Association
- National Business and Biodiversity Network
- Strategic Water Partnership Network
- Water Sector Leadership Group
- Disaster fund board administered by the Department of Social Development
- National Joint Flood Coordination Committee
- PCC (aim to be included)
- South African Weather Services
- ARC
- Various other Steering and Advisory Committees
- Insurance institutions
- NERSA
- Eskom
- SASOL



ABBREVIATIONS

AFOLU	Agriculture, Forestry and Other Land Use
ARC	Agricultural Research Council
BUSA	Business Unity of South Africa
CA	Conservation Agriculture
DALRRD	Department of Agriculture Land Reform and Rural Development
GHG	Greenhouse Gas
ISFM	Integrated Soil Fertility Management
NDMC	National Disaster Management Centre
NEDLAC	National Economic Development and Labour Council
PCC	Presidential Climate Commission
RA	Regenerative Agriculture
SACAU	Southern African Confederation of Agricultural Unions.
SAWS	South African Weather Service
SOC	Soil Organic Carbon

RESOURCES

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3. GreenCape - Sustainable Agriculture Market Intelligence Report (2021)
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5. SA Climate Change Adaptation Strategy
6. IPCC AR6 WGI (2021) and WGII (2022) reports
7. Cairns Group Farm Leaders Statement of Intent on World Trade Organisation agricultural reforms - May 2022
8. National Environmental Management Act 107 of 1998
9. Climate Change Bill (B 9—2022]

