



# Understanding Climate Change: A Guide For Farmers



# About Land Bank

The Land and Agricultural Development Bank of South Africa (Land Bank) is a specialist agricultural bank that offers tailor made financial solutions for our valued clients to enable farmers to finance land, equipment, asset acquisition and improvements including short-term and production credit facilities.

Our value-added services include insurance, business development and support services. As a development finance institution, we leverage funding from public and private sector partnerships to offer enabling funding solutions geared towards ensuring inclusivity, sustainability and growth in the agricultural sector.

## What Is Climate Change?

Climate change affects every farmer in South Africa. Seasons are becoming less predictable, temperatures are rising, and extreme weather events are becoming more frequent.

Climate change refers to long-term changes in temperature, rainfall patterns, wind patterns and the frequency and severity of weather events.



These changes are driven by both natural processes and human activities that increase the concentration of greenhouse gas in the atmosphere.

In practical terms, climate change means that the weather patterns farmers have relied on for many years are shifting. Seasons are becoming less predictable, with an increasing likelihood of droughts, severe storms, floods and heatwaves.

Instead of the usual seasonal rhythm, we are increasingly experiencing:

- Hotter days and more frequent heatwaves
- Longer dry spells
- Stronger storms and floods
- Unpredictable rainfall

These changes occur because certain gases, known as greenhouse gases, trap heat in the atmosphere. The most significant of these is carbon dioxide, mostly produced by burning fossil fuels. As the concentration of these gases increase, more heat is retained, causing the earth's climate to warm and weather patterns to change.

## Why Climate Change Matters for Farmers

Farmers rely on predictable seasons. When the climate becomes unstable, it affects crops, soil, livestock, water, and ultimately profitability. Across Southern Africa, we expect:

- Hotter, drier conditions in the west
- Hotter, wetter conditions in the east
- More droughts, floods, storms, veld fires and heatwaves

These changes are already being felt on farms across the country.

## How Climate Change Affects Your Farm

### Impacts on Crops

- **Lower yields and crop failure:** Extreme heat, prolonged dry spells or flooding can damage crops and reduce quality.
- **More pests and diseases:** Warmer temperatures and shifting rainfall patterns create favourable conditions for pests to spread.
- **Changes in growing seasons:** Plants may flower earlier or later, affecting harvest times.
- **Pollinator challenges:** If flowering seasons shift, bees and other pollinators may not align with crop cycles.

### Impacts on Livestock

- **Heat stress:** Animals eat less, grow slower

and produce less under high temperatures.

- **Increased disease risk:** Warmer, wetter conditions can increase parasites and diseases.
- **Lower fertility:** Heat stress negatively affects breeding cycles.

### Impacts on Soil and Water

- **Soil erosion:** Intense rain can take away topsoil.
- **Water shortages:** Drought reduces available water for irrigation and livestock.
- **Reduced soil fertility:** Floods and long dry spells weaken soil health.

### Broader Impacts on the Farming Community

- Reduced income
- Higher input costs
- Greater pressure on food security
- Increased vulnerability for small-scale farmers





## What Farmers Can Do: Practical Ways To Build Climate-Smart Farms

Farmers across the world are adapting the following, and you can too. Small steps can make a big difference.

### Better Water Management

- **Rainwater harvesting:** Collect and store rainwater for use during dry periods.
- **Efficient irrigation:** Drip irrigation and scheduling based on soil moisture monitoring can save water and improve yields.
- **Drought-tolerant crops:** Plant varieties bred for heat and water stress.

### Improve Soil Health

Healthy soil retains water better and supports strong crops.

- **Conservation agriculture / regenerative practices:** Minimal tillage, cover crops, crop rotation and adding organic matter all help build resilient soil.
- **Composting:** Adding compost improves fertility and water-holding capacity.

### Diversify Your Crops

- Grow a mix of crops to spread risk.

- Plant varieties suited to the changing climate in your area.
- Try intercropping to improve soil and reduce pests.

### Strengthen Livestock Practices

- Choose breeds better suited for hotter conditions.
- Improve pastures to withstand drought and recover faster after heavy rainfall.
- Provide enough shade and clean water during hot periods.

### Use Renewable Energy

Energy resilience is becoming increasingly important for farm sustainability.

- Solar pumps and solar energy systems reduce dependence on diesel and grid electricity.
- Wind energy can supplement power needs in certain regions.

These solutions lower long-term costs and make farms more reliable during loadshedding and climate-related disruptions.

### Embrace Precision Agriculture

Simple technologies can save time and money:

- Sensors and soil probes help manage irrigation more accurately.
- Drones assist in monitoring fields and livestock.
- Weather and climate apps assist planning and decision-making.

Even low-cost technology can provide valuable insights.



## How Land Bank Can Support You

Land Bank is committed to helping farmers adapt to climate change and build stronger, more resilient businesses. One key product we provide to farmers is the:

### Agro Energy Fund (AEF)

The Agro Energy Fund is a blended finance programme established in partnership with the Department of Agriculture to support energy-intensive farm operations by funding renewable energy projects that improve energy security, reliability, sustainability and ultimately reduce electricity cost.

The fund assists farmers invest in alternative and renewable energy solutions, especially for energy intensive activities such as:

- **Field Cropping:** Irrigation and cold storage
- **Piggeries:** Heating, ventilation, lighting, feeding machinery
- **Poultry:** Heating, ventilation, lighting, feeding machinery
- **Horticulture (including greenhouses):** Irrigation, cold storage, ventilation, lighting
- On-farm processing

**Note:** This list is not exhaustive.

These solutions help reduce the risks associated with rising electricity costs, and climate-related disruptions.

Example technologies include:

- Solar energy systems
- Solar pumps
- Battery storage systems
- Anaerobic digestion (Biogas)

Through this fund, farmers can strengthen their climate resilience, improve productivity, and protect their operations from energy shortages.

## How Land Bank Insurance (LBI) Can Support You

Farmers can secure greater peace of mind by transferring their climate-related risks through tailored insurance solutions from LBI.

Our comprehensive insurance cover offerings include:

- **Crop Insurance:** Indemnifies farmers for unforeseen crop losses arising from climate disasters such as hailstorms, fire, etc.
- **Livestock Insurance:** Provides financial compensation in the event of death, disease or injury to livestock.
- **Asset Insurance:** Protects valuable assets such as equipment, machinery, buildings, or other property against risks like fire, natural disasters, or accidental damage, to help minimise financial loss and ensure business continuity after a loss.
- **Credit Life Cover:** Settles outstanding loan balances in the event of death or disability, protecting your family and your farming business



against unforeseen circumstances.

With deep sector expertise and an understanding of agricultural risk, LBI provides reliable protection designed to safeguard farming operations, ensure business continuity, and strengthen financial resilience against climate variability and unforeseen events.

## Working Together For A More Resilient Future

Climate change presents real challenges, but farmers are adaptable, innovative and resilient. With the right support, knowledge, and tools, South African farmers can continue to feed our nation and secure their livelihoods for generations to come. Land Bank is here to walk this journey with you.

*For more information or assistance, please contact your nearest Land Bank office or your Relationship Manager.*

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