Actionable Guidelines for the Implementation of Climate Smart Agriculture in South Africa

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Introduction

Agriculture has been identified as one of the key sectors that will contribute towards the greening of the South African economy.

Climate Smart Agriculture (CSA) is widely promoted in agriculture as the best approach for addressing the effects of climate change.

Crop production and **rangeland management** in particular, have the greatest potential to contribute towards a green economy for South Africa, although the realization of this potential is **threatened by changing climatic conditions caused by the global climate change.**

Effects & Impacts of Climate Change

The **effects** of climate change include:

- increases in temperatures,
- reduced rainfall, and
- water scarcity.

These effects will significantly impact agricultural systems in South Africa and indeed across Africa.

Major **impacts** include:

- reduction in land suitability for both arable and pastoral agriculture,
- the reduction in the length of the growing season, and
- decrease in crop yields.

CLIMATE SMART AGRICULTURE

Definition:

CSA is defined as agriculture that sustainably increases **productivity**, resilience (**adaptation**), reduces/removes greenhouse gases **(mitigation),** and enhances the achievement of national food security and development goals.

Key message:

CSA systematically integrates climate change into the planning and development of sustainable agricultural systems *(Lipper et al. 2014).*

There is a considerable body of knowledge on CSA in South Africa, however there is a lack of practical guidelines for its implementation. To address this need, **actionable** CSA guidelines for use in the rollout of CSA in South Africa have been developed to support the country's transition to an all-inclusive green economy.

CLIMATE SMART AGRICULTURE PILLARS

- **Productivity:** CSA aims to sustainably increase agricultural productivity and resultant incomes from crops, livestock and fish, without having a negative impact on the environment. This, in turn, will improve food and nutritional security.

- **Adaptation:** CSA aims to reduce the exposure of farmers to short-term risks, while also strengthening their resilience by building capacity to adapt and prosper in the face of shocks and longer-term stresses.

- **Mitigation:** Wherever and whenever possible, CSA should help to reduce and/or remove greenhouse gas (GHG) emissions. This implies that emissions are reduced for each calorie or kilo of food, fibre and fuel produced. CSA furthermore helps to; avoid deforestation from agriculture, manage soils and trees in ways that maximizes their potential to acts as carbon sinks and absorb CO_2 from the atmosphere.

CSA THEMATIC GUIDELINES

The South African CSA guidelines were developed within the following **three thematic areas**:

- **CSA practices -** CSA practices include soil and water management, crop production, urban agriculture, and rangeland management.
- **CSA value chains -** The value chains include agro-processing and agriculture marketing.
- **CSA enabling environments -** The widespread adoption of CSA guidelines depends on the implementation of appropriate policies and **creation of an enabling environment.**

CSA Value Chains

The South African Department of Rural Development and Land Reform (DRDLR) has introduced Agri-Parks as a way of catalysing development in rural areas by bringing **agro-processing** closer to production areas, these interventions lead to:

- Development of a sustainable and inclusive agro-processing industry
- Reduction in post-harvest losses
- Reduction in transport costs
- Reduction in GHG emissions associated with transport

To support smallholder farmers who are not well connected to **marketing** channels the South African Government has introduced Rural Urban Marketing Centres (RUMC) and a Farmer Production Support Units (FPSU) in district municipalities.

CSA enabling environment

An enabling environment seems to be the most limiting factor in the roll-out of CSA practices in South Africa. **The enabling environment includes:**

- **Climate information services** – are critical for effective risk management and achievement of CSA objectives. Provision of CIS will improve farmers' capacity to prepare and manage risk.
- **Weather-indexed insurance** – will enable smallholder farmers to bounce back and make investments after experiencing a weather related shock.

CSA enabling environment cont…

- **Gender** and **social inclusion** - to encourage CSA uptake by women, the implications of the technology for women's financial and time resources ought to be taken into account.
- **Policies** - Good CSA policies will facilitate the elimination of impediments that act as hindrances for adopting CSA while ensuring the reallocation of resources to programmes that provide incentives for the adoption of CSA.

CSA ACTIONABLE GUIDELINES

The following actions were identified to support South Africa's transition to an all inclusive green economy in the agriculture sector:

- Developing and implementing varied innovative index based agricultural insurance packages for crop, livestock and fisheries value chains,
- Investing in the agro-meteorological infrastructure to support index-based agricultural insurance,
- Enhancing the capacity of micro-finance institutions to act as agents to deliver innovative crop and livestock index-based insurance packages,

CSA ACTIONABLE GUIDELINES cont…

- Raising awareness within the insurance industry of extreme weather and climate risks and communicate actions and opportunities,
- Undertaking of farmer education to address their concerns regarding insurance products with a view to gain their trust, and
- Exploring government re-insurance to support insuring high-risk smallholder farmers.

WHAT NEEDS TO BE DONE

- Development of a strategic mechanization programme that will divert resources from conventional farming mechanization initiatives to CSA mechanization.
- The policy should include provision for cross-sectoral coordination of CSA initiatives, promotion and mainstreaming of CSA strategy and avail enabling resources such as:
  - **CSA funding sources,**
  - **climate information services,**
  - **appropriate agricultural insurance, and**
  - **agricultural marketing infrastructure.**

CONCLUSION

- Adoption of CSA will depend on the creation and implementation of appropriate policies.

- The development of CSA guidelines has paved the way for the rollout of CSA in the country, however, a successful rollout will be dependent upon a **conducive enabling environment** identified.

THANK YOU!

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