FANRPAN
Food, Agriculture & Natural Resources Policy Analysis Network

POLICY BRIEF 13/2017

CLIMATE-SMART AGRICULTURE IN LESOTHO

Introduction

The effects of climate change on agriculture are severe, and one of the most significant emerging challenges to household livelihoods in Africa. As such, it is imperative that efforts to address agriculture in the context of food security and rural development take climate change into consideration. Climate-smart Agriculture (CSA) is defined as agricultural practices that sustainably increase productivity and system resilience, while reducing greenhouse gas (GHG) emissions. It is not a single specific agricultural technology or practice that can be universally applied; it is a combination of policy, technology, and finance options that involves the direct incorporation of climate change adaptation and mitigation into agricultural development planning and implementation (FAO, 2010). Lesotho holds great potential for CSA, but this needs to be further explored. Although the country has traditional agricultural practices as well as research-based programmes and techniques that have CSA qualities, CSA promotion requires concerted action from multiple actors to allow for context-specific approaches.

KEY RECOMMENDATIONS

ONE: The development of the National Climate Change Policy and Sustainable Energy Policy should be prioritized, and a focus on CSA included in the policy.

TWO: A strong emphasis must be placed on building the capacity of extension workers, farmers and other stakeholders in the use of existing/new/improved CSA technologies and practices.

THREE: Women, who play a key role in the agriculture sector, need to be provided with knowledge and training opportunities and be actively involved in the planning and implementation of CSA

FOUR: Work towards institutional coordination between private and public agriculture and climate-related institutions at national, regional, and international levels to enable increased investment from diverse sources and scaling up of CSA practices.

FIVE: Closely monitor the impact and success of CSA projects in Lesotho to understand the potential of initiatives to contribute to agricultural transformation and livelihoods, and attract increased investment.

POPULATION Total population of 2.25 million of which more than 70% live in rural areas (Trading Economics, 2017).

ECONOMY Real GDP growth increased to an estimated 3.1% in 2016, from 2.8% in 2015, with further increases projected for 2017 and 2018. A stable macroeconomic environment with single-digit inflation (averaging 3.1% in 2016) (African Economic Outlook, 2017).

POVERTY More than 60% of the population below the international poverty line (World Bank, 2017a).

AGRICULTURE IN ECONOMY Currently less than 8% of GDP is from agriculture (World Bank, 2017b). Around a third of households in Lesotho have agriculture as their main source of income (World Bank, 2016).

CLIMATE CHANGE Lesotho's greenhouse gas emissions contribute only a negligible percentage of global emissions (USAID, 2015).

Context Overview

AGRICULTURE IN LESOTHO

Smallholder farmers whose farms are generally less than 1 ha in size dominate the agricultural production in Lesotho (Wade Publications, 2015).

Agriculture in Lesotho is predominantly traditional, characterised by rain-fed cereal production and extensive animal grazing, with the contribution of the livestock subsector roughly double that of the arable subsector (Wade Publications, 2015).

Lesotho's chief agricultural subsector, the livestock industry produces mainly beef (43%), followed by game (17.6 %), mutton (14.3% and pork (12.4%). Cattle are chiefly raised for subsistence, draught power, milk, fuel (dung) and meat (Wade Publications, 2015).

VULNERABILITIES

The Fifth Assessment of the Intergovernmental Panel on Climate Change (IPCC) has shown that global climate change is already damaging crops and undermining food production capacity, particularly in poorer countries (IPCC, 2014).

The vulnerability of African countries, including Lesotho, to climate change is compounded by strong dependence on rain-fed agriculture and natural resources; high levels of poverty; low levels of human capital; low levels of preparedness for climate events; and poor infrastructure in rural areas. Temperatures in Sub-Saharan Africa are already close to or beyond thresholds at which further warming reduces (already low) yields (Cline, 2008). The average annual temperature for Lesotho is projected to increase by 1.78-2.2^{O}C by 2060 (Irish Aid, 2015).

A comparative assessment (FANRPAN, 2017) reveals that the impacts of climate change are already being perceived both by formal experts and by rural populations across Eastern and Southern Africa, including Lesotho.

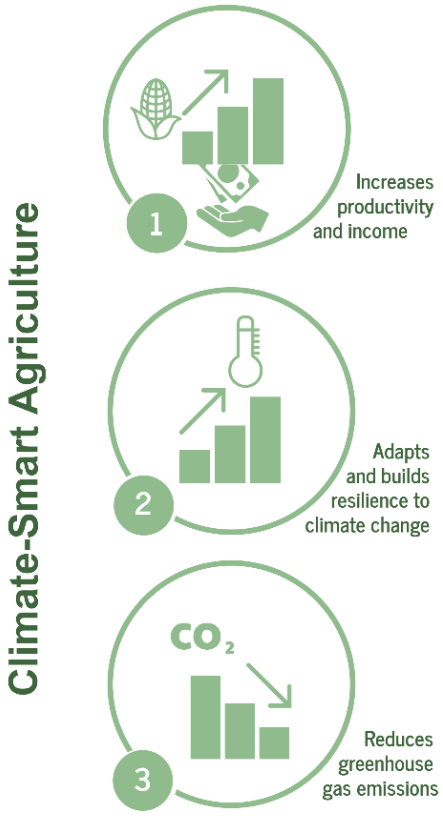
Climate change had already impacted the water sector in Lesotho by 2007. Perennial springs have run dry, robust rivers have been diminished and many dams remain dry for long periods of time (Irish Aid, 2015). Subsistence farming, which employs the majority of the working population in Lesotho, is in steady decline as a result of this (Irish Aid, 2015).

Countries in Southern Africa are also affected by El Niño (warm) and La Niña (cool) events in the tropical Pacific. The most recent El Niño (2014-2016) and La Niña (2016-2017) have impacted on agriculture in Southern Africa, including Botswana (UN News Centre, 2016). Although the El Niño has receded, the impact of the higher- than-average temperatures and the lower-than-average rainfall continue to be felt.

AGRICULTURE IN DEVELOPMENT

Agriculture remains one of the most effective pathways out of poverty. Gross domestic product (GDP) growth that originates in agriculture is approximately four times more effective in reducing poverty than GDP growth that originates in other sectors (World Bank, 2008). The risk which climate change poses to the sector thus has significant implications for poverty-reducing capacity.

In this context, CSA is critical for food security and development. It is an approach that can help reduce the negative impacts of climate change and can increase the adaptive capacity of farming communities to long-term climatic trends (FAO, 2010).



Climate-Related Policy Environment

Eastern and Southern African countries generally have policies on agriculture and climate change, and do recognize the impacts of the latter on the former. Some countries have developed National Climate Change Policies, while other countries have National Adaptation Programmes of Action (NAPA) in place, and/or National Climate Change Response Strategies.

INTERNATIONAL ENVIRONMENT

As a non-Annex I party to the Paris agreement, Lesotho has no obligations to reduce GHG emissions, but has an obligation under the UNFCCC Paris Agreement to report on the anthropogenic sources and sinks of GHGs, and to identify measures to minimize the impacts of global warming and climate change.

Lesotho submitted and ratified its nationally determined contribution (NDC) to the convention in January 2017. Lesotho has stated its commitment to a 10% unconditional reduction in GHG emissions by 2030, and a 35% conditional emission reduction subject to the availability of international support in the form of finance, technology, and capacity building. These reductions are based on a business-as-usual model.

Regionally, Lesotho is implementing the Comprehensive Africa Agriculture Development Programme (CAADP) Framework (2010), which emphasizes sustainable land and water management for improved agricultural productivity through research, technology adoption and dissemination, and agricultural GHG emissions reduction.

Lesotho signed its CAADP compact in 2013, and received technical support in developing its National Agriculture Investment Plan (NAIP). Technical support was also provided to facilitate the integration of CAADP into mainstream government planning and budgeting processes and policy documents. By November 2015, Lesotho's NAIP had been completed.

NATIONAL POLICY ENVIRONMENT

Lesotho has a National Strategic Development Plan (NSDP) 2012-2017 in place, which in turn has led to the adoption of various climate-change-relevant policies pursuant to the objectives of the NSDP.

However, to date, although Lesotho has formally committed to a process of developing a new National Climate Change Policy and Sustainable Energy Policy this is not yet in place.

A National Adaptation Programme of Action (NAPA) was developed in 2007 to address projected climatic changes. In the absence of an official national adaptation plan, the NAPA options remain the best indication of Lesotho's intentions for adaptation to climate change. Many of the NAPA climate change adaptation plans are directly or indirectly related to agriculture, and include CSA approaches – although not explicitly stated.

The Agricultural Sector Strategy 2003, National Action Plan for Food Security 2007-2017, CAADP, and National Agricultural Investment Programme (NAIP) are the Lesotho government's statement of policy and strategy in the agricultural sector development.

CSA POLICIES

There is currently no specific CSA policy or strategy in place.

The broad categories Lesotho's NDC uses to classify its climate change adaptation efforts reflect an awareness of the critical intersection between agriculture and climate change. These categories include, among others, crop production and cropping systems; livestock production and livestock systems; and climate change adaptation projects – several of which are specifically linked to the agriculture sector.

DONOR SUPPORT FOR CSA

In September 2017, The World Bank approved a $10 million additional financing from the International Development Association (IDA) to Lesotho's ongoing Smallholder Agriculture Development Project (SADP). The added funds are aimed at increasing market output among smallholders in Lesotho's agriculture sector (World Bank, 2017d).

Under SADP, which became effective in March 2012, over 55,000 beneficiaries across four of Lesotho's ten districts have been provided with grants and technical assistance to boost their productivity and market access. The additional funds will continue support to smallholder development – with a new added focus on climate-smart production.

Existing Climate-Smart Practices

CONSERVATION AGRICULTURE (CA)

Conservation agriculture (CA) is a farming system that has been practiced in Lesotho for about 30 years. The system is commonly called *likoti*, a Sesotho name for "basin agriculture". The method involves digging potholes that are approximately 20cm across and 15cm deep in a 75 x 75cm grid-like pattern. Seeds are directly planted into each pothole along with some inorganic or organic fertilizer. In the following season, seeds are planted again in the same pits. Crop residues are retained and staple crops are rotated and/or intercropped. The *likoti* system has shown promise as a means of increasing yields and conserving soil and water resources (Silici, 2011).

Likoti is now promoted by various organizations in Lesotho, including the Food and Agriculture Organization (FAO), World Vision Lesotho (WVL), Growing Nations, CARELesotho, Serumula, Send a Cow Lesotho, among many others.

KEYHOLE GARDENING

The second farming system practiced in Lesotho and deemed climate-smart is homestead or keyhole gardening. Communities, organizations and agencies are taking a joint and complementary approach to promoting keyhole gardens that grow year-round food and cash crops despite the harsh mountain climate.

The basic keyhole garden is a circular, raised bed made up of layers of soil, ash, manure, and other organic material that retains moisture and nourishes the soil, making it more productive than a conventional garden, even during dry or cold months. The gardens can produce vegetables for a family of five year-round. In Lesotho, the garden is usually walled with local stone or brick that retain daytime heat, alleviating low night-time temperatures. The raised structure also makes access easier for the chronically ill or elderly.

Keyhole gardens are promoted by non-governmental organizations and the government of Lesotho among populations vulnerable to hunger and food insecurity as a way to improve household resiliency to external shocks, such as drought.

Gaps and Challenges in Climate-Smart Agriculture

POLICY GAPS

A number of Lesotho's policies that are designed to reduce vulnerability against climate change have been found to be very appropriate as measures to assist the country to adapt to the impacts of climate change. Climate smart national aspirations of the country are however limited by some challenges.

The country does not have a climate change policy in place – although commitment has been given to do so, and international support is being provided to assist this process. A climate change policy is needed to integrate climate change in different government developmental plans to ensure that decisions on climate change measures are consistent, and should thus be prioritized.

RECOMMENDATION: The development of the National Climate Change Policy and Sustainable Energy Policy should be prioritized, and a focus on CSA included in the policy.

The country also has limited human, finance and technological resources capacity to adapt to climate change and implement programs due to lack of human capacity. This has resulted in the Government's failure to fully implement the adaptation prioritized actions.

KNOWLEDGE SHARING, CAPACITY BUILDING, AND EXTENSION

A crucial precursor for the uptake of CSA in the country is the sensitization and institutionalization of the concept within the ministry of agriculture through leadership awareness of the potentials benefits of CSA, as well as training of extension staff and other stakeholders (farmer organizations, NGOs) on CSA frameworks.

Capacity building in climate data collection and management, seasonal forecasting of weather, and developing climate driven simulation models are critical to the success of CSA in Lesotho.

RECOMMENDATION: A strong emphasis must be placed on building the capacity of extension workers, farmers and other stakeholders in the use of existing/new/improved CSA technologies and practices as an enabler for success.

Given that a significant percentage of Lesotho's households are headed by women (36%) there is need for deliberate policies to increase their participation in CSA decision making structures especially at farmer level.

RECOMMENDATION: Women, who play a key role in the agriculture sector, need to be provided with knowledge and training opportunities and be actively involved in the planning and implementation of CSA

INVESTMENTS AND FINANCIAL FLOWS

Financing the activities associated with upscaling and mainstreaming CSA is costly. The success and sustainability of many climate-related measures in Lesotho is largely dependent on the availability of donor funding. The Government needs to secure funds for climate change in the agriculture sector. Mainstreaming of CSA into national and local level strategic investment is an important step.

RECOMMENDATION: Work towards institutional coordination between private and public agriculture and climate-related institutions at national, regional, and international levels to enable increased investment from diverse sources.

Development partners should be further engaged to give technical and financial support to the agricultural sector to prepare bankable project/program proposal to access the global climate funds such as Green Climate Fund. Public-private partnerships also have high potential for contributing to the development and uptake of CSA in Lesotho through, for example, innovative insurance schemes and investment in (and testing of) new technologies.

RECOMMENDATION: Closely monitor the impact and success of CSA projects in Lesotho to understand the potential of initiatives to contribute to agricultural transformation and livelihoods, and attract increased investment.

Mapping CSA Policy and Practice in Africa

This policy brief is an output emanating from a larger study conducted in collaboration between the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) and the Earth System Governance Project, on policies for climate-smart agriculture. The Earth System Governance Project is an international social science research network in the area of governance and global environmental change.

The study was funded by the Norwegian Agency for Development Cooperation (NORAD) and the African Capacity Building Foundation (ACBF).

The research project consisted of a comparative assessment of relevant CSA policies and practices in 15 countries across Eastern and Southern Africa. The research was commissioned by FANRPAN to analyze the barriers and opportunities for promoting CSA in sub-Saharan Africa. This means agriculture that (i) increases productivity and income, (ii) adapts and builds resilience to climate change, and (iii) reduces greenhouse gas emissions where needed.

FANRPAN commissioned CSA Policy scoping studies through the work of national consultants and assessed the responsiveness of policy frameworks in 15 Eastern and Southern African countries (, Botswana, Democratic Republic of Congo, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Uganda, Tanzania, Zambia and Zimbabwe).

The main objectives were to:

- Conduct a comprehensive review of the existing CSA policies at national level,
- Analyze gaps in the existing policy frameworks,
- Assess the CSA technologies, innovations and practice (as well as untapped opportunities),
- Identify key stakeholders in CSA,
- Identify relevant policy recommendations, and
- Develop and share policy recommendations at national and regional levels.

The study processes included review of existing documents and interviews with key informants from a wide range of organizations. In all countries, national policy dialogues were convened to a) share the draft CSA scoping study report outputs with stakeholders; b) validate the outputs from the draft CSA scoping study report; and c) solicit policy recommendations from stakeholders. The draft reports were reviewed externally, and both recommendations from the national dialogues and external reviewers were incorporated into the CSA scoping study's final reports.

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About FANRPAN

The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is an autonomous regional stakeholder driven policy research, analysis and implementation network that was formally established by Ministers of Agriculture from Eastern and Southern Africa in 1997. FANRPAN was borne out of the need for comprehensive policies and strategies required to resuscitate agriculture. FANRPAN is mandated to work in all African countries and currently has activities in 17 countries namely Angola, Benin, Botswana, Democratic Republic of Congo, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

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