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). The Democratic Republic of Congo (DRC) 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 to be designed, implemented, and monitored.

KEY RECOMMENDATIONS

ONE: Identify the most appropriate mechanism to lead integrated policy development related to climate change and CSA at national and local level in the DRC.

TWO: A strong emphasis must be placed on building the capacity of extension workers, producers, and other stakeholders in the use of CSA technologies and practices through inclusive knowledge-sharing practices.

THREE: Support and promote policies, programs, and initiatives that create an enabling environment for and build the capacities of women farmers in the DRC to adopt CSA.

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

POPULATION Total population of 78.7 million of which 58% live in rural areas.


POVERTY More than three-quarters of the population lives below the international poverty line (World Bank, 2017a).

AGRICULTURE IN ECONOMY Currently more than 20% of GDP is from agriculture (World Bank, 2017b).

Approximately 70% of the employed population is engaged in agriculture, mostly for subsistence (USAID, 2016).

FOOD SECURITY INDEX Low ratings on the Food Security Index (relative to African countries), with political instability and conflict threatening food security. Within the lowest 50% of countries globally (Food Security Index, 2015).

CLIMATE CHANGE Although the DRC used to be a large net sink, it is now a contributor to global emissions (IIID, 2013).
Context Overview

AGRICULTURE IN THE DRC

The DRC holds some of the world’s largest deposits of mineral resources and has rich ecosystems and biodiversity, including the second largest tropical moist forest in the world. Forests and agricultural land cover about 60 percent and 10 percent of the country respectively.

Cassava is the most widely-grown crop in the DRC, with plantains and maize also common. In some regions, groundnuts/peanuts and rice are grown.

The number of cattle and poultry in the country has quadrupled in the thirty years since independence, although the number of sheep and goats has risen by a more modest amount.

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 the DRC, 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), and temperatures are projected to increase by about 2.7 to 3.2°C by the 2100s, as compared to the 1990 baseline (USAID, 2012).

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 Sub-Saharan Africa, including the DRC.

Most Congolese livelihoods are dependent on sectors that are highly interlinked with climate, such as small-scale agriculture, forestry, fisheries, and mining. Over time farming methods have not been adequately adjusted, leading to soil degradation, degeneration of plant and animal genetic material, as well as lack of equipment maintenance.

Countries in 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 East Africa, including the DRC (Hirons and Klinagman, 2016). Although El Niño has receded, the impact of the higher-than-average temperatures and the lower-than-average rainfall continues to be felt.

By the standards of other tropical forest regions, the deforestation rate in the Congo Basin and the DRC has been quite moderate over the past decades. However, there is an enormous legacy of conflict in the country due to the Second Congo War (1998 to 2003), and substantial environmental damage and degradation have resulted from the country’s conflicts.

AGRICULTURE AND 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 and Practice 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, such as the DRC, have National Adaptation Programmes of Action (NAPA).

INTERNATIONAL ENVIRONMENT

As a non-Annex I party to the Paris agreement, the DRC has no obligations to reduce GHG emissions, but has an obligation under the United Nations Framework Convention on Climate Change (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.

The DRC submitted its intended nationally determined contribution (INDC) to the convention in 2015, but a nationally determined contribution (NDC) has yet to be submitted and ratified. The DRC’s INDC states the intention to achieve a relative emissions reduction of 17% below 2000 levels by 2030.

This contribution is conditional on the provision of finance equaling US$12.5 billion for mitigation and US$9.1 billion for adaptation.

Regionally, the DRC 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.

The DRC has signed its CAADP compact and has developed its National Agricultural Investment Plan (NAIP) in line with CAADP processes.

NATIONAL POLICY ENVIRONMENT

In response to the 8th Conference of Parties in New Delhi, India, the government developed its NAPA in 2006. The objective of the NAPA is to produce a list of priority actions that are urgent and immediate and that contribute to the country’s efforts to adapt to the adverse effects of climate change, and to integrate these adaptations into development strategies. No interdepartmental or intersectoral committee was set up to oversee these processes.

After 2010, Government undertook institutional reforms in the Ministry of Agriculture and developed a proposal for restructuring the Ministry of Rural Development – ultimately adopting a harmonized strategy for the agriculture and rural development sector.

The DRC’s second update to the Growth and Poverty Reduction Strategy Paper (GPRSP2, 2011–2015) includes protection of the environment and fighting climate change as one of its four main strategic pillars.

CSA POLICIES

The DRC currently does not have any CSA-specific policies.

The Fundamental Agricultural Law (11/022) seeks to promote and increase agricultural production to ensure food security and rural development, but does not have an explicit CSA focus.

### Selection of national policies, plans, and strategies in the DRC related to CSA

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<tr>
<th>Policy/Strategy</th>
<th>Description</th>
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<tr>
<td>National Adaptation Programmes of Action (NAPA).</td>
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Climate-Smart Practices

There are a few, albeit limited, examples of projects which seek to promote CSA that have been implemented and tested in the DRC.

For example, the government developed profiles of projects supporting recovery of the agricultural and rural sector in the context of its initiative on “environmental awareness for the agricultural and rural population.” The initiative – an effort to raise awareness of cultural practices found harmful to biodiversity – is being carried out in the provinces of Bas-Congo and Bandundu.

More than one project aims to address the gender inequalities in agriculture through CSA. Less than 10 percent of women are landowners in the DRC and only 2 percent of women have access to credit from financial institutions (UN Women, 2016).

One example is the GEF-LDCF-funded project, Building Adaptive Capacity and Resilience of Women and Children in the Democratic Republic of the Congo, which seeks to support women and children through a community-centered approach to adopting and adapting livelihood strategies in innovative ways, based on current and future climate-change scenarios.

Another is the UN Women’s CSA initiative. The recently launched program has four key pillars: ensuring sustainable and secured access to land; improving women’s access to technology and information by facilitating digital platforms for women and real-time agricultural data; improving women’s access to funding, credit and investments; and increasing women farmers’ access to markets by supporting them to form cooperatives and strengthening their capacity to meaningfully participate in the green value chain.

The program will be launched in six provinces and is estimated to reach 600,000 women directly in the next five years, focusing on five crops that are part of an average Congolese meal: maize, cassava, beans, peanuts, and rice.

A project in the city of Lubumbashi focuses on agroforestry. This project is being implemented by GRET (Groupe de Recherche et Echange Technologique) and supports farmers within a community-based organization. The aim is to regenerate the Miombo forest while achieving food security and wealth for the farmers’ households.

The Food and Agriculture Organization (FAO) will implement a project to promote agricultural meteorology in the province of Katanga. This will capacitate persons with resources to collect climate data, with the aim of building a network that can bring early awareness to farmers. In addition to the training to be done, a small network of meteorological kits will be installed in the province of Katanga with the support of this project.

Although projects in the DRC see some successes, they are limited in scale and there is little systematic investment or coordination across ministries.
Gaps and Challenges in Climate-Smart Agriculture

**POLICY GAPS**

Coherence, coordination, and integration between sectors dealing with climate change, agricultural development, and food security are key requirements for creating a policy environment for CSA. CSA policies and support need to be mainstreamed into broader public policy, expenditure, and planning frameworks at the national, subnational, and local level.

CSA also requires coordination between concerned agencies across different sectors, promoting partnerships with non-state stakeholders that play a key role in CSA.

**RECOMMENDATION:** Identify the most appropriate mechanism to lead integrated policy development related to climate change and CSA at national and local level in the DRC.

**KNOWLEDGE SHARING, CAPACITY BUILDING, AND EXTENSION**

If smallholder producers are to adopt CSA practices and maintain them over the long term, a strong network of institutional support needs to be in place to assist and encourage their efforts.

CSA practices are knowledge-intensive, and promoting their adoption requires well-designed, inclusive, and innovative knowledge-sharing systems. CSA initiatives should ground their interventions in a research-informed understanding of the different opportunities, capacities, and complexities that individual institutions bring to the table.

Based on these insights, processes that encourage stakeholder engagement can be employed to determine ways in which partnerships and collaborations can be established. In this regard the availability and capacity of extension workers in the DRC is critical.

**RECOMMENDATION:** A strong emphasis must be placed on building the capacity of extension workers, producers, and other stakeholders in the use of CSA technologies and practices through inclusive knowledge-sharing practices.

Women farmers face significant challenges in the DRC, and CSA is an opportunity to engage this important group, and to equip them to successfully improve their livelihoods while protecting the environment.

**INVESTMENTS & FINANCIAL FLOWS**

Current agricultural investment flows in the DRC are insufficient to adequately finance sustainable agricultural development in a changing climate.

For developing countries, changing patterns of climate finance represent an opportunity as well as a challenge. To successfully access and effectively use increasing volumes of international CSA financing, the DRC will have to ensure that they build the evidence base and the institutional capacities needed to secure larger-scale CSA investments.

**RECOMMENDATION:** Closely monitor the impact and success of CSA projects to understand the potential of initiatives to contribute to agricultural transformation and livelihoods, and to 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 practices (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 (i) share the draft CSA scoping study report outputs with stakeholders; (ii) validate the outputs from the draft CSA scoping study report; and (iii) solicit policy recommendations from stakeholders. The draft reports were reviewed externally, and recommendations from both the national dialogues and the external reviewers were incorporated into the CSA scoping study’s final reports.
Promoting a conducive policy environment for a food and nutrition secure Africa
Promoting a conducive policy environment for a food- and nutrition-secure Africa

This policy brief is a product of the 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 work was made possible by financial support from the Norwegian Agency for Development Cooperation (NORAD) and the African Capacity Building Foundation (ACBF).

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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