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# Info Note

## Review of policies and frameworks on climate change, agriculture, food and nutrition security in Ethiopia

*Dorothy Amwata, Zewdu Eshetu, Catherine Mungai, Dawit Solomon and Maren Radeny*

**JUNE 2020**

### Key messages

- Ethiopia has made great efforts to integrate climate change, agriculture, food and nutrition security through different policies, strategies and frameworks, but more deliberate and proactive integration of the existing frameworks and policies is required.
- Multi-stakeholder platforms, digital databases and information management systems can help in the generation of baseline data for developing indicators for monitoring and evaluating the integration of policies and frameworks, and as a dynamic innovation hub for the development of decision support tools (DSTs).
- Provision of technical support for capacity building, project design, financial mobilization and to build regional cooperation programs for transboundary issues is essential.
- Partners from international (CGIAR), regional and national research organizations need to work with the government to create synergy and harmonize various policy activities aimed towards achieving a common goal.

### Introduction

Agriculture is the mainstay of Ethiopia's economy, contributing over 50% of the gross domestic product (GDP), accounting for more than 85% of the labor force and over 90% of the foreign exchange earnings (Alemu et al. 2010). Consequently, the sector receives considerable attention from the government, investing 15% of its total budget over the decade and meeting the commitments by Africa's heads of states to the African Union Maputo 2003 Declaration on Agriculture and Food Security (CAADP 2003). On average, crop production makes up 60% of the sector's outputs, livestock accounts for 27%, with other sub-sectors contributing 13% of the total value of agricultural production. The sector is dominated by small-scale farmers, practicing rain-fed mixed farming using traditional

technologies, characterized with low levels of input use and low productivity.

While agriculture is vital for the growth and development of the local and national economy, there are salient constraints hindering its performance. These include small and diminishing farm sizes due to rapid population growth; soil infertility associated with decreasing yield-per-hectare ratios; higher incidence of on-field and post-harvest crop pests (e.g., desert locust); reduced soil moisture availability; increased evapotranspiration and water stress; lack of inputs and use of traditional technologies leading to low productivity; limited access to capital, credit and markets; inadequate market information; outbreaks of animal diseases and shortages of animal feed; and declining output prices (Rahmeto 2008). The above constraints coupled with land degradation, conflict, food price fluctuations, low non-farm employment, low incomes, and regional fragmentation of markets have further intensified the challenges in agriculture. Extreme weather events such as droughts and floods have further impacted the country's agriculture causing fluctuations in income and agricultural productivity, and resulting in food and nutrition insecurity at national and household levels.

Ethiopia is home to Africa's largest livestock population and is the tenth-largest producer of livestock and livestock products globally, contributing about 10% of the country's foreign currency earnings. Frequent and extensive droughts in the country over the past years have had a considerable effect on Ethiopia's livestock sub-sector. Decreased amounts of rainfall reduce available water resources and the productivity of grasslands and rangelands. Increased incidence of pests and diseases, and reduced feed and water sources are associated with increased livestock mortality. In addition, increased temperatures can affect the behavior and metabolism (internal body processes) of livestock, such as reduced feed intake leading to a decline in productivity.

Climate variability and change that include increases in temperature, variable and unpredictable seasonal rainfall patterns, and increased incidence of drought and other extreme weather events are increasingly becoming a serious threat to crop and livestock production, and adversely affecting the agriculture sector and the overall economic development of Ethiopia. Ethiopia's agriculture needs to build resilience and adapt to these climate-related emerging challenges to meet increasing demand for nutritious food for the country's growing population while increasing production for export to generate foreign exchange, and where possible reduce greenhouse gas (GHG) emissions from the sector. Recognizing current and future climate-related risks to both crop and livestock, and developing climate-informed policies and frameworks for agriculture, food and nutrition security are important in providing an enabling environment for building farmers resilience and adaptive capacity in Ethiopia.

This review is part of a series of studies carried out across five countries in East Africa and aims to understand the current state of policies and frameworks related to climate change, agriculture, food and nutrition security, including their level of integration in Ethiopia. Specific objectives include: i) evaluating the extent to which agriculture, food and nutrition security policies and frameworks integrate climate change adaptation and mitigation, and vice versa; ii) identifying strengths and gaps in the sectoral and national policies and strategies relevant to climate change, agriculture, food and nutrition security; and iii) identifying potential entry points for different actors including international, regional and national research organizations to strengthen their engagement at the district, zonal, regional and national levels to inform bottom-up policy development and implementation for enhanced resilience in agriculture, and improved food and nutrition security.

## Methods

The review applied three complementary approaches: desk review of relevant literature, publications, policy documents and frameworks on climate change, agriculture, food and nutrition security; stakeholder consultations, where eight experts from relevant Ethiopian government ministries and agencies, and research organizations were interviewed based on their engagement and contribution to relevant policies and frameworks on climate change, agriculture, food and nutrition security; and relevance scoring of national and sector-specific policies, frameworks and programs regarding the extent to which they are designed to address climate change adaptation and mitigation, agriculture, food and nutrition security, with five weight-groups (on a scale of 1-5) (see Eshetu et al. (2014)):

- Very high relevance (5) – climate change or agriculture, food and nutrition security are the primary objective;
- High relevance (4) – climate change or agriculture, food and nutrition security are a significant, but not primary objective;

- Moderate relevance (3) – climate change or agriculture, food and nutrition security objectives are not explicitly stated; but the activities promote climate change adaptation and mitigation actions, or agriculture, food and nutrition security;
- Little relevance (2) – climate change or agriculture, food and nutrition security are not the target objective, but activities have indirect adaptation and mitigation, or agriculture, food and nutrition security benefits;
- Very little relevance (1) – where climate change, or agriculture, food and nutrition security are not the target objective at all, but activities have minimal indirect link to climate actions, or agriculture and food and nutrition security.

The relevance scores were established for the different components of climate change (adaptation and mitigation), agriculture (productivity), food and nutrition security (availability, access and utilization). The weights were then aggregated to percentiles and grouped into three categories of relevance: high ( $\geq 75\%$ ), medium (50-74%) and low ( $\leq 49\%$ ).

A total of 15 policies and frameworks on climate change, agriculture, food and nutrition security were reviewed, including the extent of their integration: Sustainable Development and Poverty Reduction Programme (2000-2005); New Coalition for Food Security (2003); Agricultural Growth and Rural Development Strategy and Program (2004); Food Security Program (2004); Productive Safety Net Program (2004); Plan for Accelerated and Sustained Development to End Poverty (2006-2010); Growth and Transformation Plan I and II (2011-2025); Climate Resilient Green Economy (2011-2025); Agriculture Sector Policy and Investment Framework (2010-2020); Ethiopia's National Adaptation Plan (2017); Nationally Determined Contribution (2016); Second Growth and Transformation Plan II (2015-2020); National Health Policy and Strategy (1993); Agricultural Growth Program II (2015-2020); Ethiopian Strategic Investment Framework Sustainable Land Management (2010). Other cross-cutting policies and frameworks were also reviewed, focusing on the extent to which they integrate climate change, agriculture, food and nutrition security as per the set criteria. These included the Environmental and Social Management Framework of 2016 (88%); Land Management and Administration Policy (65%); Environment Policy of Ethiopia of 1997 (56%), in a descending order.

## Integration of climate change into agriculture, food and nutrition security policies and frameworks

Despite its Least Developed Country (LDC) status, Ethiopia has a rich history of engagement in climate change, reflecting the significant threat of climate change to the country. The country has integrated climate change within its national policies and frameworks, and is a party to the international policies and frameworks on climate

change, earning Ethiopia a strong voice in international climate change discussions (Endalew and Craft 2016).

Ethiopia has played a leading role in driving climate integration, and climate change has been given prominence in Ethiopia's governmental structure. The country established a Ministry of Environment, Forest and Climate Change (MEFCC) which has been restructured to an Environment, Forest and Climate Change Commission (EFCCC), with the mandate of coordination of environment, forestry and climate change issues, and acts as the National Focal Point to the United Nations Framework Convention on Climate Change (UNFCCC). The commission also coordinates the implementation of the Climate Resilient Green Economy (CRGE) strategy across sectors and carries out capacity-building activities for sectoral and regional bodies. Ethiopia has continued its efforts to mainstream climate change adaptation and mitigation into its agriculture, food and nutrition security policies and frameworks as shown in Table 1.

The extent to which agriculture, food and nutrition security policies have integrated climate change adaptation and mitigation in terms of the average weighted relevance score ranged from 32% to 100% with a weighted mean of 60% were as follows: those that scored more than 75% and less than 49% weighted scores accounted for 27% each while those of medium scores accounted for 47% of the policies. Four policies had relatively high weighted scores and include the Poultry Development Roadmap (100%), Ethiopian Strategic Investment Framework Sustainable Land Management (87%), Ethiopia Livestock Master Plan Roadmaps for Growth and Transformation (80%) and the Nutrition Sensitive Agriculture Strategic Plan (78%). Policies with low scores include National Health Policy and Strategy (36%), Agriculture and Rural Development Policy 2003 (32%), Food Security Strategy, 2002 (32%) and Labor-Intensive Strategy (28%).

Table 1 shows that most of the agriculture, food and nutrition security policies and frameworks reviewed have integrated adaptation, at an average weighted score of 82% compared to mitigation at 38%.

### Agriculture, food and nutrition security integration in climate change policies and frameworks

The review also examined the extent to which national climate change policies and frameworks integrate agriculture, food and nutrition (Table 2). The weighted scores were relatively high, ranging from 60-80%. The Intended Nationally Determined Contribution (INDC) (80%) had the highest weighted score (80%), followed by the Climate Change Education Strategy of Ethiopia (74%) and the National Framework for Climate Services (60%). Food availability was the most integrated, followed by agricultural productivity and food access, with food utilization being the least integrated.

Table 1. Integration of climate change into agriculture, food and nutrition security policies and frameworks

Agriculture, food and nutrition security policies and frameworks	Climate change		Weighted score (%)
	Adaptation	Mitigation	
Poultry Development Roadmap (2015-2020)	5	5	100
Ethiopian Strategic Investment Framework Sustainable Land Management (2010)	5.0	3.7	87
Ethiopia Livestock Master Plan Roadmaps for Growth and Transformation (2015-2020)	5.0	3.0	80
Nutrition Sensitive Agriculture Strategic Plan (2016-2020)	5.0	2.8	78
National Food Nutrition Policy (2017)	5.0	2.2	72
Cow Dairy Development Roadmap (2015/16-2019/20)	5	2	70
Red Meat/Milk and Cattle Feedlot Systems Development Roadmap	5	2	70
Agriculture Extension Strategy of Ethiopia (2017)	5.0	1.9	69
Growth and Transformation Plan I (2010-2015)	4.1	2.3	64
Agriculture Sector Policy and Investment Framework (2010-2020)	3.0	2.5	55
National Nutrition Strategy (2008)	3.9	1.2	51
National Strategy for Infant and Young Child Feeding	3.2	0.0	32
Agriculture and Rural Development Policy (2003)	3.2	0.0	32
Food Security Strategy (2002)	3.2	0.0	32
Labor-Intensive Strategy	2.8	0.0	28
<b>Average score</b>			<b>60</b>

In addition, the review examined the extent to which projects and programs integrate climate change adaptation and mitigation, agriculture, food and nutrition security. Of the 18 projects and programs evaluated, 11% had a high weighted score (>75%), while the majority (89%) had a medium weighted score (Table 3).

**Table 2. Integration of agriculture, food and nutrition security into climate change policies and frameworks.**

Climate change policies and frameworks	Agriculture, food and nutrition security				
	Productivity	Availability	Access	Utilization	Weighted score (%)
Intended Nationally Determined Contribution, (2016)	4.0	4.0	4.0	4.0	80
Climate Change Education Strategy of Ethiopia (2017-2030)	4.5	5	3.6	1.5	74
Growth and Transformation Plan II (2015-2020)	3.8	3.9	3.6	2.9	72
National Adaptation Plan (2017)	3.7	3.7	3.6	3.2	72
Climate Resilient Green Economy (2010)	3.3	3.5	3.5	3.0	66
Second National Communications (2016)	3.5	4.0	3.5	2.0	66
National Framework for Climate Services (2019)	3.1	3.8	4	1.2	60
<b>Average score</b>	<b>3.7</b>	<b>4</b>	<b>3.7</b>	<b>2.5</b>	<b>70</b>

## Institutional landscape for climate change, agriculture, food and nutrition security

Climate change adaptation and mitigation is increasingly being undertaken by several institutions. At the national level, several institutions cut across climate change adaptation and mitigation and agriculture, food and nutrition security. EFCCC is the National Focal Point for UNFCCC, and also serves as a national focal point for climate change. EFCCC leads, coordinates, funds and undertakes development activities and formulates and implements policies, strategies and programs on forestry, environment and climate change. With regards to agriculture and food security, the Ministry of Agriculture (MoA), previously Ministry of Agriculture and Natural Resources (MoANR), has the national mandate. Food nutrition is coordinated by the Ministry of Health (MoH). Policy declaration and approval is the responsibility of the parliament and the Office of the Prime Minister (PMO).

The ministries have their regional, zonal and woreda level designated as Bureaus and Offices, respectively. NGOs focus on advocacy for policy development and implementation. Other national and international research institutes and organizations include: Ethiopian Institute of Agricultural Research (EIAR); Food and Agriculture Organization of the United Nations (FAO); International Food Policy Research Institute (IFPRI); Ethiopian Development Research Institute (EDRI); Ethiopian Agricultural Transformation Agency (ATA); Ministry of Mines, Petroleum and Natural Gas; Ministry of Transport; Ministry of Urban Development, Housing and

Construction; Ministry of Water, Irrigation and Electricity; World Food Programme (WFP); National Disaster Risk Management Commission; Farm Africa; Care USA Ethiopia; World Health Organization (WHO); World Bank Group; African Development Bank; United Nations Development Programme (UNDP); and the CGIAR centers among others.

**Table 3. Integration of climate change, agriculture, food and nutrition security into programs and projects**

Programs and projects	Weighted score (%)
UN CC:Learn (2015)	
Improving Smallholder Livelihoods and Resilience through Climate-Smart Agriculture and Economic Development (2016)	High (>75%)
Climate-Smart Agriculture	
National Nutrition Programme (2008-2015)	
Agricultural Growth Program-II (AGP2)	
Productive Safety Net Program	
Climate Change Adaptation in the Lowland Ecosystems of Ethiopia (2018)	
National Nutrition Programme (2008-2015)	
Agricultural Growth Program-II (AGP2)	
Climate Change Adaptation in the Lowland Ecosystems of Ethiopia	Medium (50-74%)
Sustainable Community Based Seed Production System in Tigray (2016)	
Integrated Livelihood Improvement Project in Eastern Tigray (2016)	
Scaling Out Sweet Potato and Potato Lead Interventions to Improve Nutrition and Food Security in Tigray and SNPPR (2016)	
Strengthening a Community Driven Climate Resilience Building Initiative in Mao Komo Woreda of Benishangul Gumuz Region (2016)	
Building Resilience through Agribusinesses	
Livestock for Livelihoods	
Making Forestry Sustainable	
Market Approaches to Resilience	

## Conclusions and opportunities for strengthening integration

Ethiopia has made great efforts to integrate climate change, agriculture, food and nutrition security through different policies, strategies and frameworks. These, among other efforts in other sectors of the economy, are making Ethiopia's Paris Agreement target one of the few that the Climate Action Tracker rates as "2°C compatible" (<https://climateactiontracker.org/countries/ethiopia/>). This rating indicates that Ethiopia's climate plans are within the range of what is considered to be a fair share of global efforts. However, there is opportunity for deliberate and proactive integration of the existing frameworks and policies. In addition, most of the policies and frameworks on agriculture, food and nutrition security focus more on agricultural productivity, food access and nutrition; but with less clarity on specific interventions on mitigation and food utilization. Ethiopia's mitigation efforts often focus

primarily on the forestry sector. Inadequate mechanisms for coordination between climate change and agriculture, food and nutrition stakeholders has resulted in overlaps and inefficiency in the implementation of programs and projects.

There is a need for enhanced institutional collaboration for capacity development to integrate climate change resilience and adaptation strategies with synergies to mitigation opportunities for securing all forms of food security aspects including knowledge and data repository. This will help avoid duplication and fragmentation of activities, budgets, human resources and enhance both efficiency and effectiveness.

The CGIAR and other partners can contribute towards establishing methods and indicators to measure the relevance of policy frameworks to agriculture, climate change, food and nutrition security. Currently there is no framework for evaluating progress on the extent to which the different policies, strategies and programs/projects integrate climate change, agriculture, food and nutrition security. This also includes enhanced provision of resources and technical support in developing technical packages for capacity building and knowledge sharing.

## Further reading

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*The Info Note is part of a series of studies carried out to review policies and frameworks on climate change, agriculture, food and nutrition security across East Africa.*

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