Info Note

Adapting Agriculture to Climate Today, for Tomorrow (ACToday) - Ethiopia

Findings from food system and stakeholder mapping, and from wheat and livestock value chain analyses in relation to climate services in Ethiopia

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Key messages

- Climate services is crucial in Ethiopia to increase agricultural productivity, improve food and nutrition security and livelihoods, and ultimately foster economic growth.
- Climate services strengthens resilience, adaptive capacity to climate risks and variability, and are important to both smallholder farmers as well as other key actors along the value chain and should be an essential component of the agricultural extension system.
- Capacity building, communication and coordination are key constraints to climate services.

This brief summarizes findings of a mission of MSc fellows in support of the project entitled 'Adapting Agriculture to Climate Today, for Tomorrow (ACToday) in Ethiopia' led by the International Research Institute for Climate and Society (IRI) of Columbia University and implemented in collaboration with CCAFS East Africa. As part of the needs assessment phase over a period of 3 months, the fellows interviewed multiple stakeholders in the agriculture and climate services sectors. These stakeholders included decision-makers from both the public and private sectors in Ethiopia, as well as Ethiopia's international development partners. This phase of the project focused on gathering information to assess the needs, strengths, and challenges of climate services – specifically data generation, translation, analysis, and dissemination – on a large scale through stakeholder interventions and program activities, and the wheat and livestock value chain analyses.

Overview of the ACToday project

ACToday, an initiative of the Columbia World Projects (CWP), aims to enhance the availability and effectiveness of climate information in national policy, planning, management, and other decision-making processes. Its goals are to improve food security, nutrition, environmental sustainability, and economic outcomes. Six countries – Ethiopia, Senegal, Colombia, Vietnam, Guatemala, and Bangladesh – have been selected for the project.

The problems identified by ACToday include:

- One in eight people on the planet go hungry for extended periods every year;
- When addressing hunger and malnutrition, climate matters;
- Understanding how climate matters is key;
- Understanding existing national policies and practices is also essential.

The solutions to the above-identified problems include:

- Columbia's intellectual leadership applied to programs of global impact;
- A focus on science that informs and affects planning and decision making in a real-world setting;
- Addressing data challenges will be a critical first step to success;
- IRI stands out in its ability to provide and decision makers with relevant, high-skill climate information on shorter and longer time scales;
- Built-in impact evaluation.

The International Research Institute for Climate and Society

CGIAR RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

Improved seed multiplication site in Kulumsa. Photo: Ravina Pattni

The key IRI partners for ACToday in all selected countries include: CCAFS, the CGIAR Research Program on Agriculture for Nutrition and Health (A4NH), the Food and Agriculture Organization of the United Nations (FAO), the World Bank, and the World Food Programme (WFP).

Key objectives of ACToday mission to Ethiopia (Jun-Aug 2018)

- Identify key national strategies and policies related to food systems and nutrition in Ethiopia;
- Understand which national agencies are responsible for which strategies and plans, and how they work with other ministries;
- Understand ACToday partners' goals and how they support Ethiopia's development goals, and their relationship with key government agencies and other partners;
- Identify climate challenges in partners' activities around food systems that are otherwise not being addressed and that ACToday can help address. Specifically, analyze the food system, wheat and livestock value chain;
- Contribute to the development of strategies to help address the climate challenges identified.

National policy landscape

Ethiopia was one of the first countries to develop a plan for a climate resilient green economy. The policy response for a climate resilient green economy has been highlighted in all sectors of the economy, including agriculture and livestock, in order to achieve food security and improve livelihoods. The climate change policies at the national and global level have been used as a framework for developing national level development plans.

The climate change-related policies include:

- *Climate Resilient Green Economy (CRGE) 2011.* This policy's vision is for Ethiopia to achieve middle-income status by 2025 through climate-resilient economy.
- *Ethiopia's Intended Nationally Determined Contribution (INDC) 2015.* Ethiopia's INDC is based on the CRGE strategy to cover issues of mitigation, adaptation and means of implementation.
- *Ethiopia's Second National Communication to the United Nations Framework Convention on Climate Change (SNC – UNFCCC) 2015.* The report was published by the Ministry of Environment and Forest with support from the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF)
- *Climate Change and Adaptation and Mitigation (CCAM) Program 2016-2020.* This is a joint program of the Agricultural Transformation Agency (ATA), Ministry of Agriculture and Livestock (MoAL), National Meteorological Agency (NMA), and Ethiopian Institute of Agricultural Research (EIAR). ATA developed the CCAM program to spearhead climate-related efforts of the Growth and Transformation Plan (GTP I), and to ensure that such considerations are mainstreamed throughout all activities.

Wheat and legume in clustered smallholder farming systems in Kulumsa, Ethiopia. Photo: Dawit Solomon (CCAFS East Africa)

The national development plan related policies include:

- *National Adaptation Programme of Action (NAPA) 2017.* The NAPA was prepared in application of the articles of the UNFCCC requiring parties to address climate change through the preparation of the national adaptation document and integrate climate change into its sectoral development policies and plans.

- *Second Growth and Transformation Plan (GTP-II) 2016-2020.* GTP II was formulated after the achievements of GTP I and took into account Ethiopia's commitment to the UN Sustainable Development Goals (SDGs). The vision of GTP II is for Ethiopia to attain lower middle-income country status by 2025, sustaining rapid, broad-based, and inclusive economic growth through enhancing productivity and stimulating competition in the economy.
- *National Adaptation Plan (NAP) 2017-2032.* The NAP documents falls under the existing CRGE strategy and provides a dedicated plan for climate change adaptation, a critical step towards a climate-resilient economy. The goal of NAP is to bring about transformational change in the country's capacity to address the adverse consequence of climate change.

The national policies in Ethiopia are very important for the planning of all activities and interventions. Therefore, all stakeholders involved in Ethiopia food system have to align their programs with the government policies and priorities. One of the key challenges raised by stakeholders is that there is a lack of coordination among different actors and collaboration among national partners.

Challenges and constraints of climate services in Ethiopia

Climate services involves four pillars: knowledge generation, translation, transfer, and finally application/use. The challenges and constraints of climate services in Ethiopia are in all the pillars.

Climate data generation is the mandate of NMA and they share this data with various stakeholders through different process that include memorandums of understanding with some government ministries. Some of the generated data are translated into useful products by NMA itself as well as experts from intuitions such as MoAL, EIAR, and ATA. Some of the translated information are transferred to Development Agents (DAs) in different districts and communities across the country. Finally, the information reaches smallholder farmers in the form of agro-advisories from DAs.

The general challenges and constraints of climate services identified from stakeholder interviews and the value chain analyses include:

- Lack of communication and coordinated activities by stakeholders involved at the different stages of climate services from information generation to dissemination;
- Weak climate information communication and feedback mechanism. This includes the technicians and agriculture extension services, whereby soil and crop characteristics data should be linked to climate data for complete agro-advisories for farmers;
- Limited staff capacity at the woreda (district) level where there is high staff turnover so all the training and investment in human capacity needs to be completed over and over again;
- Lack of farmers' trust because of weather information that is not always accurate. An inaccurate forecast decreases farmers' participation in the future;
- Lack of capacity at NMA to release accurate area-specific forecast information to provide accurate agro-advisories;
- Limited capacity of woreda level DAs in terms of technical capacity. Often the capacity of DAs is not sufficient to provide relevant advice to farmers, which decreases trust. Monitoring the DAs' activities and follow-up with farmers is very difficult given the large size of some woredas
- Lack of linkage between indigenous knowledge and data-driven approaches;
- Few national policies are gender responsive. Stakeholders within the government and private sectors are aware that there are gender issues but often do not understand them in depth. CRGE offers clear objectives and goals for climate and agriculture; however, it is not gender-sensitive and its goals are homogenous and do not take into account their impact on women specifically;
- Lack of data availability in the livestock sector when compared to other key agricultural activities in Ethiopia. The existing data are often not readily accessible, and certain indicators are under/over reported to meet government indicators;

Recommendations for ACToday Ethiopia

The recommendations are based on discussions with stakeholders, and actors in the wheat and livestock value chains.

The recommendations from the wheat value chain analysis include:

- Wheat productivity is vulnerable to high temperatures which have increased diseases and pests, such as the devastating wheat rusts. Therefore, there is a need for considering climate in crop breeding programs to create rust-resistant varieties and to plan for seed multiplication considering climate variability;
- Agriculture extension services need to be developed for more effective delivery of climate information. This requires the agro-advisory to reach DAs in the form of SMS or other digital platforms. Also, these services need to be gender-sensitive so that women can use climate information for better decision making
- There is a need for increased government investment in programs that develop demonstration plots where farmers can experiment, access relevant climate

information, and receive training in sustainable, climate-smart agricultural practices;
- Increase the capacity of smallholder farmers, unions, and cooperatives to store grain through community-based storage as a critical opportunity to improve farmers' food security as well as their revenue;
- Increase access to credit and index-based insurance that take into account climate variability and loss of production.

The recommendations from the livestock value chain analysis with beef as the main commodity include:

- Increase use and availability of climate information for high productivity of feed from crop residues and ensure that pastoralists receive attention due to their movement in search for feed;
- Strengthen the extension service capacity in livestock production since most DAs lack the required expertise;
- Design climate information for monitoring disease outbreaks to prepare farmers with regards to the health of their livestock;
- Provide smallholder farmers and pastoralists with market and climate information so that they sell their livestock when the price is convenient and they can prepare in advance for climate shocks;
- Focus on partnerships that aim to strengthen climate services in the poultry sector since it is the changing focus of the government in terms of reaching Greenhouse Gas (GHG) emission target;
- Strengthen dissemination of climate information to women that are involved in the livestock sector which is differentiated from men;
- Improve access to credit and expand the reach of Index-based livestock insurance to protect smallholders in the most stressed regions in the periods of recurrent drought.

Livestock grazing on public land. Photo: Ravina Pattni

The recommendations from stakeholder meetings in relation to their programs and activities include:

- Strengthen the capacity building initiatives by investing in students at schools and universities to build interest and ensure long-term sustainability;
- Leverage technology for data and communication that works in tandem with human capacity to ensure that information is delivered in a timely manner, and stakeholders can coordinate their activities;
- Need for gender sensitive and responsive interventions that take into account the role of women in agricultural production, climate information, and market information to improve their participation in marketing their products.

Conclusion

The next steps for ACToday Ethiopia will require a close look at partner activities, their challenges, and the potential added-value of climate services. In particular, ACToday can identify ways in which it can contribute to improving the food system in Ethiopia.

A consideration for further steps requires engagement and coordinating with partners. This will ensure that efforts are not compartmentalized, and that the outcome of this project creates maximum impact and is sustainable.

The three-month needs assessment phase highlighted the demand and lack of adequate climate services in Ethiopia. Therefore, there is great scope for what can be done in Ethiopia while working closely with all the partners.

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