



AKADEMIYA2063-CORAF Virtual Regional Learning Event

**Agricultural Production Systems in West and Central Africa:
Insights to enhance Data and Technological Advancement**

Tuesday, July 6, 2021

13:00-14:40 GMT

09:00-10:40 US EST



CONCEPT NOTE

Africa's diverse food production systems are increasingly challenged by numerous threats, including weather shocks, plant diseases, pest outbreaks, the COVID-19 pandemic, and other health emergencies. The challenges posed by these threats relate not only to the extent and complexity of the disruptions posed but also the difficulty in identifying and tracking them in real time. It is challenging, even in normal times, to have complete and accurate information on cropping activities and gathering reliable information is even more difficult during emergencies. When crises strike there are additional difficulties in how growing conditions will affect crop production or whether farmers will have access to the inputs and labor they need. Typically any impacts on harvested quantities are determined at the end of the growing season thus leaving farmers to play catch up in dealing with a crisis and its impacts. Without the ability to accurately and timely predict impacts on agricultural production, a weather shock or a health crisis can easily turn into a food crisis.

Invariably, the collection of relevant data on agricultural production systems is largely based on outdated tools which do not address the complexity and ramifications on the production systems. Consequently, the required dimension of data to support strategic inferences and conclusions are not available. The lack of information about growing conditions can be overcome by using today's digital technologies. Remotely sensed data enables real time tracking of changes in vegetation cover, weather data, and other parameters related to cropping activities. Recent developments in machine learning and computer modeling make it possible to track and predict crop production using these data. The benefits go far beyond the ability to overcome the obstacles to data gathering during crises. The many weaknesses hampering access to good quality agricultural statistics also can be overcome using the same digital technologies, from measuring arable land, planted areas, crop yields to the spatial distribution of harvested quantities.

CORAF, as a technical arm of the Regional Economic Communities (RECs) in West and Central Africa, is increasingly encouraging and supporting the RECs and their constituent national governments through respective National Agricultural Research Systems (NARS) to adopt and effectively use the growing number of modern tools in capturing data across the food system.

AKADEMIYA2063 scientists are using machine learning techniques and remotely sensed data to assess changes in agricultural production systems and thereby provide valuable information to aid crisis management, monitoring and prevention in local communities. Under its COVID-19 agricultural production system disruption workstream, the AKADEMIYA2063 team of scientists developed the African Crop Production (AfCP) model to predict yields and production levels of several crops across the African continent.

There is growing collaboration between CORAF and AKADEMIYA2063 to promote the effective use of modern data capturing tools to shed light on various dimensions of the production system with a view of supporting effective decision making.

On July 6, 2021, AKADEMIYA2063 and CORAF will host a virtual regional learning event to demonstrate their collaborative efforts in modernizing data acquisition and harnessing the latest technologies to guide decision-making in West and Central Africa's agricultural production systems.

Learning Event Goals

The goal for this learning event is to create a better understanding of the farming systems in West and Central Africa with reference to its diversity, challenges and potential for meeting the food requirement for the region. More importantly, results of the 2020 crop yield and harvest predictions for West and Central Africa will be presented. This learning event will focus on CORAF and AKADEMIYA2063's research agenda and will cover the question how data and technology can advance productivity in the agricultural production system.

During the regional learning event, Dr. Niéyidouba Lamien of CORAF will give an overview of the farming system in West and Central Africa with reference to its diversity, challenges, and potential



for meeting the food requirement of the region. He will also highlight the work of CORAF in advancing the use of modern tools to collect data on production systems in the region. Dr. Racine Ly of AKADEMIYA2063 will present results from the 2020 crop yield and harvest predictions for West and Central Africa and discuss the direction of AKADEMIYA2063's future research using remote sensing and machine learning techniques in the agricultural sector.

Program

TIME	AGENDA ITEM
13:00 –13:15 GMT	<p>OPENING</p> <p>Moderator— Ms. Nana Amoah, Senior Advisor to Executive Director/Operations Manager, CORAF</p> <p>Welcome Remarks & Meeting Objectives [5 mins]</p> <p>Dr. Abdou Tenkouano, Executive Director, West and Central Africa Council for Agricultural Research and Development (CORAF)</p> <p>Opening Remarks</p> <p>Mr. Alain Sy Traoré, Director of Agriculture and Rural Development, Economic Community of West African States (ECOWAS) [5 mins]</p> <p>Mr. Abakar Mohammed, Head of Agriculture, Rural Development Department, Economic Community of Central African States (ECCAS) [5 mins]</p>
13:15–14:00 GMT	<p>PRESENTATIONS</p> <p>Impact of technology advancement for farmers in West Africa</p> <p>M. Ibrahim COULIBALY, President, Network of Peasant Organizations and Agricultural Producers in West Africa (ROPPA) [15 mins]</p> <p>Overview of Agricultural Production Systems in West and Central Africa: Use of Modern Tools, Challenges, and Potential for Meeting the Food Requirement in the Region</p> <p>Dr. Niéyidouba Lamien, Head Agriculture, Food and Nutrition Priority Intervention Domain, CORAF [15 mins]</p> <p>Predicting Crop Production in West and Central Africa Using Remote Sensing and Machine Learning Techniques</p> <p>Dr. Racine Ly, Director for Data Management, Digital Products and Technology, AKADEMIYA2063 [15 mins]</p>
14:00–14:30 GMT	<p>DISCUSSION: Q&A</p>
14:30–14:40 GMT	<p>CLOSING REMARKS & WAY FORWARD</p> <p>Mr. Abdrahamane Dicko, USAID West Africa Regional Office [5 mins]</p> <p>Dr. Ousmane Badiane, Executive Chairperson, AKADEMIYA2063 [5 mins]</p>

You are invited to a Zoom meeting

When: July 6, 2021 01:00 PM Universal Time UTC

Register in advance for this meeting:

<https://zoom.us/meeting/register/tJUldumgpjwqEtPDAevTwzEWzyleI4E9opGb>

After registering, you will receive a confirmation email containing information about joining the meeting.



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