

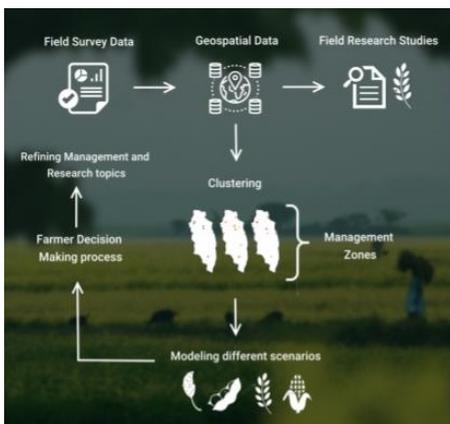


# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

## December | News & Updates

### Consortium Feature: Digital Tools, Geospatial and Farming Systems Consortium



#### Current and Future Challenges and Opportunities for Livestock in Senegal:

An exhaustive literature search was conducted and focused on retrieving peer-reviewed journal manuscripts and reports published by government and non-government organizations. The research was done at Michigan State University, which explained that this research is relevant since it will help implement potential interventions and improve the livestock systems while enhancing the livelihood of the people living in this region.

According to the research, pastoral, agro-pastoral, and off-land systems are the three major livestock production systems in Senegal, which are unique in terms of agro-climatology and degree of intensification and integration. Meanwhile, Senegal heavily depends on importing livestock products (e.g., beef, milk, and eggs) to meet its national requirement.

Visit DGFSC's  
Website!

The DGFSC conducted a review to identify challenges and opportunities for different livestock farming systems in Senegal as a focus country in the region of West Africa.

Eeswaran Rasu, Ph.D. candidate at Michigan State University, explained that this research is relevant since it will help implement potential interventions and improve the livestock systems while enhancing the livelihood of the people living in this region. According to Eeswaran, the major challenges identified in livestock systems are lack of pasture

and quality feed, scarcity of water resources, undeveloped breeding and management of livestock, climate change, poor marketing and trade, and socioeconomic constraints. Learn more by visiting DGFSC's webpage!



Learn More about Eeswaran  
Here

## *Youth Engagement: Young Professional and Student Highlights*



**Pinn Thira**

*CE SAIN - Cambodia*

*Pinn is earning his Ph.D. in Food Science at Royal University of Agriculture in Cambodia*

My academic background is in Business Management. In 2011, I finished my master's degree in Integrated Management of Agriculture and Rural Development at Royal University of Agriculture. I am now pursuing a Ph.D. degree at Royal University of Agriculture under the support of CE SAIN. I have developed my skills of research as a result of field data collection with different projects such as the Baseline Survey on local governance, Post-Harvest Lost Management and Value chain in tomato and Leafy mustard, and many more. Since 2011, I've worked as a lecturer on Project Development and Project Management and Agricultural Extension for faculty of Agronomy,



**Carlos Hernandez**

*Digital and Geospatial Farming Systems Consortium (DGFSC)*

*Carlos is a current environmental researcher for this project*

Carlos Hernandez, a researcher for the project “Soil and Climate Characterization to Define Environments for Summer Crops in Senegal” from the DGFSC, explained that “the project focuses on trying to understand how environmental drivers affect crops, especially the summer crops that have an especially key role in the food security in Senegal.”

To lead this investigation, Carlos used different data sources as remote sensing data and soil samples for delineating different homogeneous zones in the central west zone in Senegal.

During the investigation, the process had some limitations, for example, “the

Faculty of Agricultural Economics and Rural Development, and Faculty of Rubber Science.

lack of temporal data in the soil samples, textural data like sand or clay, and geo-reference data of crop productivity data." For this reason, the researchers focused on using the main variables that can affect the summer crops.



### Abdou Seck

*Improving Food and Nutrition Security in Senegal and Niger*

*Abdou is earning his Master's in Animal Science at the University of Thies in Senegal*

Our study entitled "Contribution to the adoption of dual-purpose millet into the South Groundnut Basin production systems: development of feed rations based on millet stovers for growing cattle" was carried out in the Kaolack region of Senegal. The first constraint that appeared was the village of Ngolothie is not yet electrified, hence the need to stay in the municipality of Sibassor located at 4 km away. Second, the cattle herders participating in the study were not on the same alignment because each of them had a young bull in his own house which didn't facilitate moving around and monitoring. Despite all these difficulties, we tried to do our best and used all the means at hand for the smooth running and success of this study, being convinced that the results of our study will be of great interest for the agro-pastoralists of the Senegalese groundnut basin.

## Postdoctoral Highlight

Leonardo Bastos is a postdoctoral researcher in the Digital Tools, Geospatial and Farming Systems Consortium (DGFSC). He leads a project called "Variety and Management Selection to Optimize Pearl Millet Yield and Profit in Senegal." The aim is to assess the effect of dual-purpose pearl millet varieties, planting density, and nutrient rates on biomass, grain yield, and farm profit magnitude and responsiveness. Leonardo emphasized, "It was fascinating to work with a different crop and country. One of the most valuable things about the DGFSC is that our skills to turn something very complex into something simpler that may help farmers by providing them useful information that can improve their farm and their country."



### *Evaluation of Land Use and Land Cover Change and Its Drivers in Battambang Province, Cambodia from 1998-2018*

The main objective of this research was to evaluate land use and land cover (LULC) change in Battambang province of Cambodia over the last two decades. The LULC maps for 1998, 2003, 2008, 2013 and 2018 were produced from Landsat satellite imagery using the supervised classification technique with the maximum likelihood algorithm. This research provides a long-term and detailed analysis of LULC change together with its drivers, which is useful for decision-makers to make and implement better policies for sustainable land management.

[Read Article Here!](#)

### *Highlight Video*



Click on the image to watch a highlight video about the Innovation Lab and partners success in CE SAIN!

### *Hiring for Open Position*

As you all know, the SIIL has an open position for a Program Administrator (PA)! The PA will work together with the SIIL Director and Associate Director (AD) and Business Manager in the coordination, communication, and monitoring of sub-award research projects. The PA will be responsible for implementing SIIL's knowledge management and communication strategies. The PA will produce a range of communication materials for internal and external target audiences. The PA will also coordinate SIIL events, scientific meetings, and other activities relevant to the oversight of the SIIL.

If you or someone you know fits this job description, please see the document below to read about it and apply!

[Click Here to Read About the Position!](#)



Collaborative Research on Sustainable Intensification

