TENNESSEE STATE UNIVERSITY
"Think. Work. Serve."

College of Agriculture
3500 John A. Merritt Boulevard
Nashville, TN 37209
Office: (615) 963-5819
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Abdelaziz Lawani, Ph.D.
Assistant Professor, Agribusiness and Entrepreneurship
Dept. of Agricultural Business and Education (DABE)
alawani@tnstate.edu, Cell: (859)913-7579

February 5, 2024

Program: Mentorship Program to Support NSF Grant Proposal Development for MSI Faculty

Project Title: *Do Minorities Have Equal Access to Extension Services: Evidence from a Field Experiment*

Research Field of Interest: *Experimental Design for Public Policy*

Contact Information of Dean, College of Agriculture: *Dr. Chandra Reddy, Ph.D., creddy@tnstate.edu, Tel: 615-963-7561/7620*

Past Grants Applications to NSF:

- *NSF-HBCU-EiR: Do Minorities Have Equal Access to Extension Services: Evidence from a Field Experiment.*
- *AccelNet Implementation Phase 1: Climate-Proofing Circular Food Production Systems*
- *MSRDC/DOE: Empowering Minorities in Clean Energy: A Solar Workforce Development Initiative for African Americans, Hispanics, and Native Americans*

Dear Sir/Madam,

I am writing to express to be considered for the Mentorship Program to Support NSF Grant Proposal Development for MSI Faculty. In my role as a newly appointed Extension Assistant Professor in Agribusiness Management and Entrepreneurship at Tennessee State University (TSU), within the Department of Agricultural Business and Education (DABE), my work is at the intersection of applied economics, machine learning, and policy.

Upon reviewing my curriculum vitae, you will notice that I have applied for several NSF grants without achieving success thus far. I believe that participation in this mentorship program will be instrumental in enhancing my skills in developing successful grant applications. I am eager to learn from experienced faculty members who have demonstrated success with the NSF and who can provide valuable insights into the weaknesses of my previous applications and receive constructive guidance on how to develop successful ones.

Within the framework of this program, I intend to focus on two research ideas. The primary research initiative is titled *"Do Minorities Have Equal Access to Extension Services: Evidence from a Field Experiment."*

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The rationale behind this idea is to examine whether farmers equally benefit from extension services. Indeed, historically, minorities have been underserved by federal, state, and local extension services. The United States Department of Agriculture (USDA) acknowledges that these farmers have faced racial or ethnic prejudice. The legacy of discrimination in the access to extension services has created significant disparities among farmers in the US. These disparities continue to have profound implications on farms owned by minority farmers and their livelihoods today. Although several efforts have been made by the federal government to address the historical barriers and discriminations that have limited the access of minority farmers and ranchers to extension services, there is limited evidence of the effectiveness of these efforts. The objective of this research is to examine if racial discrimination is still prevalent in the provision of extension services to minority farmers.

The second research project I would like to work on as part of this program if time allows, is titled: "*Estimating Preferences for HBCUs Among High School Students: Evidence from Choice Experiments and Best-Worst Scaling Surveys.".* Historically Black Colleges and Universities (HBCUs) have historically encountered various challenges that undermine their daily operations and survival. According to Andrews et al. (2016), one such challenge is the competition from prestigious non-HBCUs and well-endowed universities that offer a diverse range of degrees, specializations, and financial aid options to students. While studies on the success and sustainability of HBCUs have predominantly focused on the perspectives of administrators, faculty, and staff, there is a limited number of studies that consider the viewpoint of students and their parents. Ultimately, it is the students who make the final decision regarding the institution where they will pursue their higher education.

This research aims to address this gap by employing a choice experiment and the best-worst scaling method to identify the preferences of high school students for higher education institutions. By analyzing these preferences, the study will uncover the attributes of HBCUs that hold importance for students and determine the trade-offs they are willing to make to pursue their education at an HBCU.

I strongly believe that the Mentorship Program to Support NSF Grant Proposal Development for MSI Faculty is a unique opportunity for me to hone my skills in grant proposal development and learn from experienced mentors, gaining insights into effective strategies and best practices for crafting successful NSF grant proposals.

If you need additional information related to my application, please do not hesitate to contact me.



Abdelaziz Lawani, Ph.D.

Project Title: Do Minorities Have Equal Access to Extension Services: Evidence from a Field

Summary

Overview

Historically, minorities have been underserved by federal, state, and local extension services. The United States Department of Agriculture (USDA) acknowledges that these farmers have faced racial or ethnic prejudice. The legacy of discrimination in the access to extension services has created significant disparities among farmers in the U.S. These disparities continue to have profound implications on farms owned by minority farmers and their livelihoods today. Although the federal government has made several efforts to address the historical barriers and discriminations that have limited the access of minority farmers and ranchers to extension services, there is limited evidence of the effectiveness of these efforts. Moreover, the cognitive bias of the agents in charge of providing the extension services and the structure of the extension offices can still constitute important barriers to achieving equity in the distribution of extension services. The objective of this integrated interdisciplinary research and extension study is to examine if racial discrimination is still prevalent in the provision of extension services to minority farmers. We will use a field experiment where the staff of county extension offices will receive a request for information from fictitious farmers. The farmers will look identical except for their names. Some will have distinctively African American sounding names, while others will have Hispanic, or white-sounding names. In addition, data on the county extension offices will be matched with census data, and diversity indexes will be calculated. Regression analysis will be conducted to understand the determinants of the gap in response to farmers belonging to different ethnic groups.

We will also follow Regassa et al. (2021) and design an alternative choice experiment targeting extension agents to examine the impact of several attributes, among which race and gender, on the provision and quality of extension services. The results of the research will be disseminated to extension agents, land-grant universities, and other stakeholders involved in providing extension services to farmers. This will be done through a variety of extension outreach channels such as workshops, meetings, seminars, videos, fact sheets, etc. Training will also be organized to provide extension agents with the knowledge, skills, and educational materials needed to improve equity in the delivery of extension services, especially to minority farmers. Policy briefs developed based on the results of this study will also be made available to policymakers to stress the need to continue and increase efforts to ensure equitable access to extension services for all farmers.

Intellectual Merit

This research represents one of the few studies (the first to the best of our knowledge) that employ the audit studies method to investigate discrimination in the delivery of extension services to minority farmers. It integrates principles from economics, specifically correspondence tests, with machine learning tools such as sentiment analysis and also utilizes linguistic tools such as Linguistic Inquiry and Word Count (LIWC) to examine subtle discrimination in the provision of extension services.

Broader Impacts

This project addresses a critical equity and social justice issue and will advance knowledge and benefit society. Discrimination within CES perpetuates inequality and unjust treatment of minority farmers and communities. Ensuring equal access to agricultural resources and services is a core component of achieving social justice. The project's outcomes will contribute significantly to the economic viability of minority farmers who have faced discrimination within CES. It will facilitate their access to essential resources, funding, and knowledge that, due to discriminatory practices, had previously hindered their potential for growth and economic success. Moreover, preventing discrimination within CES aligns with both legal requirements and ethical obligations of the government. This project utilizes research findings to inform public policy, thereby contributing to the improvement of CES. The project supports Tennessee State University‘s land grant mission with a focus on addressing the needs of minority farmers. It will also contribute to USDA’s strategic objective 2: Ensure America’s Agricultural System is Equitable, Resilient, and Prosperous and specifically to the USDA's initiatives to promote equity in the distribution of extension services.

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October 5, 2023

Dr. Chandra Reddy, Ph.D.
Dean College of Agriculture
Director of Research and Administrator of Extension
Tennessee State University
3500 John A. Merritt Blvd.
Nashville, TN 37209

RE: Letter of Support for Dr. Abdelaziz Lawani's HBCU-EiR Project

To Whom It May Concern

Dear Sir/Madam,

I am writing this letter to support Dr. Abdelaziz Lawani's research project titled "*Excellence in Research: Do Minorities Have Equal Access to Extension Services: Evidence from a Field Experiment*," which is being submitted for consideration in the Historically Black Colleges and Universities - Excellence in Research (HBCU-EiR) program.

Dr. Lawani's research project addresses a critical issue in agricultural extension and has the potential to make a significant contribution to this field. The historical disparities in access to extension services, primarily rooted in racial and ethnic prejudices, have had enduring and detrimental consequences on the livelihoods and prosperity of minority farmers. Despite commendable efforts by the federal government to alleviate these historical barriers, there is little empirical evidence regarding the effectiveness of these initiatives. The project addresses one of the goals of the College of Agriculture at TSU in responding to the needs of small and medium-scale farmers, beginning farmers and ranchers, and historically underrepresented minorities.

The methodology proposed by Dr. Lawani allows for a systematic examination of racial and gender bias in the provision of extension services. The design draws inspiration from previous studies and provides a sound foundation for robust data collection and analysis. Furthermore, the commitment to disseminate research findings widely, including publication in referred journals, creating fact sheets, videos, and

policy briefs, and organizing extension seminars and workshops on cultural awareness and competency, demonstrate a clear commitment to making a tangible impact.

Dr. Lawani is a new faculty member within our institution. We are fully committed to supporting his professional development, and the HBCU-EiR program will be another opportunity to increase our investments in his growth. Dr. Lawani's proposed research aligns with Tennessee State University (TSU)'s land-grant mission in research, extension, and education/teaching. Our College is dedicated to providing the necessary resources and time release, as outlined in the proposal's Facilities, Equipment, or Other Resources section, to ensure this project's successful completion.

I firmly believe that Dr. Lawani's research project has the potential to inform on critical issues of equity and access to agricultural extension services. Please consider this letter as a formal expression of the endorsement and support of the College of Agriculture at Tennessee State University for Dr. Lawani's HBCU-EiR research project.

Sincerely,



Chandra Reddy, Ph.D.
Dean and Director of Research/Administrator of Extension

ABDELAZIZ LAWANI, PH.D.

Tennessee State University, Department of Agricultural and Environmental Sciences
3500 John A Merritt Blvd, Nashville, TN 37209
(859) 913-7579/ alawani@tnstate.edu

EMPLOYMENT

Assistant Professor, Department of Agricultural and Environmental Sciences, Tennessee State University — *January 2022 - Present*

Assistant Professor, Department of Agriculture, Eastern Kentucky University — *August 2018 – Dec 2021*

EDUCATION

Ph.D., Agricultural Economics: University of Kentucky 2018

M.A., Agriculture and Resource Economics: North Carolina State University 2013

M.Sc. Development Economics and Rural Sociology: Abomey-Calavi University (Benin) 2008

B.Sc. Agronomy: Abomey-Calavi University (Benin) 2007

EXPERTISE

Primary: Applied Economics, Entrepreneurship
Secondary: Applied Machine Learning, Industrial Organization

PUBLICATIONS

Ayamga, M., **Lawani, A.**, Akaba, S., & Birindwa, A. (2023). Developing Institutions and Inter-Organizational Synergies through Digitalization and Youth Engagement in African Agriculture: The Case of "Africa Goes Digital". Land, 12(1), 199.

Andrew Muhammad, Charles Martinez, **Abdelaziz Lawani**. 2023. "Why Are Eggs so Expensive? Understanding the Recent Spike in Egg Prices" Choices. Quarter 1.

Lawani, A. G. Owusu**. 2020**. "Youth-oriented packaging and the demand for e-liquids: Evidence from Amazon in the UK." *Review and Resubmit*

Lawani, A. 2020. "Modeling the demand for plant-based meat on online platforms: case of Amazon, Walmart, and Target." *Under review*

Lawani, A. 2020. "America political divide, race, gender, and minority status in higher education: evidence from ratemyprofessors." *Under review*

Lawani, A., M. Reed., T. Mark, and Y. Zheng. 2019. "Impact of Reviews on Price: Evidence from Sentiment Analysis of Airbnb Reviews in Boston", *Regional Science and Urban Economics.*

Lawani, A. 2019. "Determinants of the impacts of drones' services on farmers' productivity." *Under review*

Lawani, A. 2018. "Beer quality and preferences: sensory analysis of reviews scrapped from beeradvocates.com." *Under review*

Lawani, A. 2018. "Textual analysis and omitted variable bias in hedonic price models applied to short-term apartment rental market" *Under review*

Lawani, A., M. Reed., R. Fiamohe. 2016. "Impact of Food Reserve Programs on Price Levels and Volatility: Natural Experiment from Benin Cereals Markets in West Africa." *Under review*

Lawani, A., S. Saghaian, Yuqing Zheng. 2015**.** Tourism Demand Analysis in the US: An Almost Ideal Demand System Approach. *Under review*

Lawani, A. 2007. "Contribution du Bois-energie aux moyens d'existence durable des ménages riverains de la réserve de biosphère de la Pendjari », T*h. Ing. Agr., FSA/UAC, Abomey-Calavi, Bénin*

WORK IN PROGRESS

Who is asking: Impact of Gender and Ethnicity on the Validity and Reliability of Contingent Valuation Estimates

Assessing Farmers' Willingness to Accept for Purchase of Agricultural Conservation Easement (PACE) Program in Tennessee: A Discrete Choice Experiment

U.S. Consumers' Willingness to Pay for Hemp-based Products: Case of the Clothing Industry.

Knowledge and Use of Generative Artificial Intelligence in Extension: Case of Tennessee Cooperative Extension Service

Examining Land Access and Succession Among Beginning, Young, and Minority Farmers in Tennessee

Impact of country of origin and eco-labels on the demand for canned tuna online

Impact of food assistance programs on the intergenerational transmission of poverty and food insecurity: A causal machine learning approach

Predicting COVID-19 cases and mortality using Artificial Intelligence (AI): who die and Why?

Explaining racial, gender, and social inequality in the U.S using big data

The hospitality industry, and the COVID-19 pandemic

Price transmission along the U.S. beef food chain

Climate gentrification: Evidence from minority neighborhood in south Florida

Reviews, school quality and preferences for schools and neighborhoods:

Willingness to pay for drone services: Case of cotton farmers around protected areas in Benin.

Predictive model for anti-poaching in the WAP protected areas in Benin.

Drones for precision agriculture: comparative evaluation of pesticide spraying drones and manual sprays (with Michael Sama, Tyler Mark, Ahmed Hussein, Ali Hamidisepehr).

GRANTS, AWARDS, FELLOWSHIPS & HONORS: **$1,209,500** funded and **$2,102,000** submitted

National Institute of Food and Agriculture, U.S. Department of Agriculture (NIFA-USDA) ($499,991)	*2022-2024*
Project: Enhancing opportunities for land access and transfer for Tennessee's beginning farmers.	
NIFA-USDA ($189,712) | Project: The Food Safety Halo Effects of Eco-labels	*2022-2024*
NIFA-USDA ($449,060) |Enhancing Food Security, Community and Rural Development of BFRDP	*2022-2023*
Swiss National Science Foundation (SFr. 500,000)	*2020*
United Nations Population Funds (UNFPA) ($127,000)	*2020*
Perkins Leadership Grant ($27,927.74)	*2020*
ENABEL (Belgium Development Agency) & TechnoServe (€250,000)	*2020*
ACP-EU Technical Centre for Agricultural and Rural Co-operation (CTA) Multiple grants (€150,000)	*2018-19*
Clinton Foundation Honor Roll (CGI U)	*2017*
Future Leaders Forum of the Association for International Agriculture and Rural Development	*2017*
University of Kentucky Sustainability Grant ($6000)	*2017*
Technical Centre for Agricultural and Rural Co-operation grant for the project "ICT4Ag" (€7800)	*2017*
AWF Species Protection Grant ($20,000) with the Laboratory of Applied ecology (Benin)	*2016*
Finalist AAEA Extension Competition	*2016*
University of Kentucky Research Activity Award (2016-2017) ($3000)	*2016*
University of Kentucky travel grant ($400)	*2016*
Clinton Global Initiative Grant (multiple grants for project implementation and travel)	*2016*
U.S. Embassy in Benin Public Affairs Grants ($2000)	*2016*
University of Kentucky Sustainability Grant ($4600)	*2015*

Norman E. Borlaug Leadership Enhancement in Agriculture Program Grant ($20,000)	*2015*
IDEA WILD Grant ($800)	*2015*
Alumni Engagement Innovation Fund for the project Youth and Gender-Based Violence, United States Department ($17,000)	*2014*
Alumni Engagement Innovation Fund for the project Youth Entrepreneurs Partners (YEP), United, States Department ($25,000)	*2013*
Graduate Student Research and Teaching Assistantship at the University of Kentucky	*2013 - 18*
Graduate Student Assistantship at North Carolina State University	*2012*
Fulbright scholarship	*2010*
Travel Grant by the African Technology Policy Studies Network (ATPS)	*2011*
African Technology Policy Studies Network (ATPS) Research Award ($10,000)	*2010*
Travel Grant by DIVESITAS for the OSC2- Cape Town, South Africa	*2010*
Excellence Scholarship from Benin Government for Undergraduate Studies in Agronomy and Graduate Studies in Agricultural Economics at Abomey-Calavi University, Benin	2002- 07

CONFERENCES

Southern Agricultural Economics Association (SAEA) Annual Meeting (Atlanta, Georgia)	2024
Agricultural & Applied Economics Association (AAEA) annual Meeting (Kansas City, Missouri)	*2020*
Association for International Agriculture and Rural Development 56th Annual Conference (D.C)	*2020*
Universities Fighting World Hunger (UFWH) Summit (Lexington, Kentucky)	*2020*
Experience Capitalization on the Use of Drones in Agriculture (Cotonou, Benin)	*2019*
Fifth Meeting of the Africa-Indian Ocean Regional Aviation Safety Group (Accra, Ghana)	*2019*
Artificial Intelligence (AI) for Good Global Summit (Geneva, Switzerland)	*2019*
International Cooperation Expo (Rome, Italy)	*2019*
Agricultural and Applied Economics Association, Annual Meeting (Atlanta)	*2019*
International Union of Forest Research Organizations World Congress (Brazil)	*2019*
International Association for Landscape Ecology (Milan, Italy)	*2019*
Southern Agricultural Economics Association (SAEA) Annual Meeting	*2018*
Information and Communications Technology for Development 10th Conference (Lusaka, Zambia)	*2018*
AERE at the 87th Southern Economic Association Annual Conference, Tampa, Florida	*2017*
Western Economic Association International (WEAI), 92nd Annual Conference - San Diego, California	*2017*
Association for International Agriculture and Rural Development (AIARD) Annual meeting	*2017*
Southern Agricultural Economics Association (SAEA) Annual Meeting - Presenter and Session Chair, Mobile Alabama	*2017*
Agricultural and Applied Economics Association, Annual Meeting, Boston	*2016*
Clinton Global Initiatives Annual Meeting, New York	*2016*
Clinton Global Initiatives University, University of California Berkley	*2016*
World Food Prize, Des Moines, Iowa	*2015*

2015 Concordia Summit, New York. *2015*

19th Annual Conference of the Yale Chapter of the International Society of Tropical Foresters, New Haven, CT *2013*

2012 ATPS Annual Conference on "Emerging Paradigms, Technologies and Innovations for Sustainable Development: Global Imperatives and African Realities", Addis Ababa, Ethiopia *2012*

2011 ATPS Annual Conference on "Strengthening Linkages between Policy Research and Policymaking for African Development," Mombasa, Kenya *2011*

2010 ATPS Annual Conference on "The state of science, technology and innovation in Africa: Implications for Achieving the Millennium Development Goals," Cairo, Egypt *2010*

ATPS Annual Conference on "Africa's response to global challenges through science technology and innovation," Abuja, Nigeria. *2009*

DIVESITAS OSC2- Biodiversity and society: understanding connections, adapting to change, Cape Town, South Africa *2009*

Conference on chronic poverty, CPRC, Cotonou, Benin. *2007*

TEACHING EXPERIENCE

Tennessee State University, Department of Agricultural and Environmental Sciences

AGSC 4080: Experimental Design and Analysis	*Spring 22,23*
AGSC 3020: Food Economics	*Fall 22, 24*

Eastern Kentucky University, Department of Agriculture

AGR 170: Application of Unmanned Aerial Systems in Agriculture	*Spring 21*
AGR 410: Determinants of Food Obesity in the U.S.	*Spring 2019, 20, 21*
AGR 308: Agricultural Economics	*Spring 2019, 20, 21*
AGR 350: Agricultural Marketing	*Spring 2019, 20, 21*
AGR 850: Agricultural Policy	*Spring 2019, 20, 21*
AGR 520: Global Food Systems	*Spring 2019, 20, 21*
AVN 170: Introduction to Unmanned Aerial Systems (UAS)	*Spring 2020, 21, 21*
AGR 308: Agricultural Economics	*Fall 2018, 19, 20*
AGR 310: Principles of Agribusiness Management	*Fall 2018, 19, 20*
AGR 409: Agribusiness Records and Analysis	*Fall 2018, 19, 20*
AGR 440: Agricultural Financing	*Fall 2018, 19, 20*

University of Kentucky, Department of Agricultural Economics

AEC 309 - International Agriculture, World Food Needs, and U.S. Trade	*Fall 2016*
AEC-303-002: Social Entrepreneurship	*Spring 2016*
AEC-303-003: Doing Business in Africa	*Spring 2015*

Abomey-Calavi University (Benin) (Lecturer and Supervising role)

Lecturer at the Faculty of Economics and Management of the University of Abomey-Calavi: Planning, Monitoring & Evaluation and Grant Writing *2015*

Introductory training on R packages for statistical modeling; Training for young researchers and Ph.D. students at Abomey-Calavi University (Benin) *2014*

Seminar on Young Students After Colleges: How to Succeed as a Young Researcher or Professional. *2012*

Training on job application, research proposal writing, grant submission, application to graduate school, presentation of academic research (oral and writing).

Thesis and Research Works / Mentoring and/or Supervision

Co-Supervisor, Jessica RB King, M.Sc. Thesis: "The ecologist's perspective of agriculture"	*2019*
Supervisor, Adanick Paul, M.Sc. Thesis: "The mediating impact of the proximity to grocery stores on obesity in the U.S."	*2019*
Supervisor, Victoria Tillman, M.Sc. Thesis: "The impact of milk marketing orders on farmers' productivity in the U.S"	*2019*
Supervisor, Morgan Munsey, B.Sc. Thesis: "The determinants of food obesity in the Appalachia"	*2019*
Co-Supervisor, Alidou Chabi Bari, M.Sc. Thesis: "Drones in pineapple farming systems: efficiency and improvement of technical parameters measurement"	*2019*
Co-Supervisor, Ayo Olabissi Robert, M.Sc. Thesis: "Analysis of the potentials of drones for precision agriculture in rice farming systems in Benin"	*2019*
Co-Supervisor Médard Kafoutchoni, Ph.D. Thesis: "Assessing the value of using multi-spectral imaging from Unmanned aerial vehicles to quantify and characterize yield and yield components in Kersting's groundnut *Macrotyloma geocarpum* (Harms) Maréchal & Baudet"	*2018*
Co-supervisor Narcisse Yehouenou & Josue Gouwakinnou, M.Sc. Thesis: "Willingness to pay for drone services: evidence from cotton farmers in Benin"	*2017*
Advisor for Samsom TOULASSI, M.Sc. Thesis in Agronomy on "Value chain analysis of fish supply chain in and around Pendjari Biosphere Reserve"	*2009*
Advisor for Victor SOSSOU, B.Sc. thesis in Economics on "Impact of micro-credit on women livelihood in Abomey-Calavi municipality"	*2009*
Advisor for Victor SODEGLA, B.Sc. thesis in Geography on "Adoption and impact of mixed crop systems with *Cajanus cajan* (L.Millsp) on farming performances"	*2009*
Advisor for Hypolithe Cocou TCHILEHOUN, B.Sc. thesis in Geography on "Effect of land management on agricultural productivity within Adja ethnic groups (Benin)"	*2009*
Advisor for Maurice AZANLIN, M.Sc. thesis in Natural Resources Management on "Ancient and actual repartition area of mammals in the south of Benin: case of *Syncerus caffer Sparrman, 1779"*	*2009*
Advisor for Sèdagbandé Christian AYIWAHOUN, M.Sc. thesis in Economics on "Economic analysis of tomatoes marketing system in Benin"	*2008*
Advisor for Gilles GBAGUIDI, M.Sc. thesis in Geography on "Evaluation of the impacts of PAMF project on natural resources conservation in Wari-Maro forest"	*2008*
Advisor for Macrine Hounsavi, M.Sc. thesis in Geography on "Inventory and uses of natural resources in the Sô valley"	*2008*
Advisor for Appoline ASSOGBADJO, M.Sc. thesis in Geography on "Social and economic importance of *Borassus aethiopum* in Benin"	*2008*

PROFESSIONAL & RESEARCH EXPERIENCES

Project Director NIFA Grant "The Food Safety Halo Effects of Eco-labels" *2022-Present*

- Manage the project
- Supervise graduate students
- Research design, data collection, analysis, and publication

Co-Project Director NIFA Grant "Beginning Farmers and Ranchers Development Program" *2022-Present*

- Co-manage the program
- Design program on supporting agribusinesses in Tennessee
- Design training on agribusiness management: ag accounting, budgeting, financial analysis, risk, tax...
- Development of an application on Tennessee Market Highlights

Founder Vadunu *2021-Present*

- Developing an app that facilitate direct marketing between small-scale farmers and consumers in the U.S. (under development)

Consultant for the United Nations Population Fund on the project "Drones and Artificial Intelligence for public health" *2020-Present*

- Design and implement a drone program to improve healthcare delivery in Africa (Benin)
- Designed an app for medicines and blood stock management and early warning system
- Survey national health systems and introduce medical delivery drones for Covid-19 test kits
- Train 120 young graduates on the implementation of the drone for vaccines delivery program

Principal Investigation for the Belgium Development Agency on the project "Improving pineapple farming systems with drones and artificial intelligence" *2019-Present*

- Develop an AI algorithm for flowering detection and fruit counting in pineapple farms.
- Design and set up web and mobile application for pineapple farming
- Develop a national e-extension program in Benin

Principal Investigator on the project "Training African drone pilots in a harmonized regulatory environment" *2019-2020*

- Developed training materials for drone pilots
- Conducted online survey to examine the impact of drone regulation on the drone industry in Africa
- Conducted workshops in Benin and Senegal with civil aviation authorities on drone regulation
- Assist the Ministry of Higher Education in Benin on the development of a national education program on Unmanned Aerial System

Principal Investigator on the project "Viability assessment of unmanned aerial system (UAS) services in the context of smallholder irrigated rice farming in Benin" *2018-2020*

- Randomized Control Trial: Supervised research design, data collection, and analysis.
- Trained more than 300 stakeholders on the use of drones for agriculture:
  i. Crop monitoring with Unmanned Aerial Vehicles (UAV or drones)
  ii. Mapping with UAV (NDVI, VARI, Digital Surface Models...)
- Ensured sound and effective project management and quality standards
- Co-supervised students in data collection, analysis, and report writing
- Oversaw and support the development of reports, policy briefs, and manuscripts

Consultant for GIZ on the project "Transboundary Biosphere Reserve in the Mono Delta (TBR)" *Apr-Aug 2017*

- Developed a protocol on the use of UAV for mapping, surveillance and ecological monitoring
- Compared the performance of UAV systems to existing methodologies
  iii. Conduct a SWOT analysis of the technology in the context of TBR and/or for similar ecological situations.

iv. Evaluate the need in terms of technical capacity building to carry out drone operations
v. Design training programs

Principal Investigator on the project "Biodiversity conservation through anti-poaching drones in the W-Arly-Pendjari (WAP) Parks in West Africa" *2015-2018*

- Trained rangers, researchers in Benin, Niger and Burkina-Faso and students and staffs of the National School of Wildlife and Protected Area Management in Benin on:
  vi. GIS practices with open source software (QGIS)
  vii. Building and using Unmanned Aerial Vehicles (UAV or drones) to monitor wildlife and identify illegal fishing, poaching, and agricultural encroachment
- Conducted a policy dialogue with the stakeholders with concerns and/or issues related to biodiversity conservation in the WAP

Lecturer at the Faculty of Economics and Management of the University of Abomey-Calavi on Planning, Monitoring & Evaluation and Grant Writing *2015*

- Trained professionals and students at the Faculty of Economics and Management on "Planning monitoring & evaluation of projects and programs" and on "Grants writing: Methods and Practices".
- Pre-evaluated 15 grants proposals and provide guidance for their improvement before submission to the US Embassy in Benin call for proposals.

Principal Investigator on the research project "Storage Behavior, Price Stabilization and Price Transmission in Rice Markets: Evidence from Benin" *2015 - 2016*

- Worked in collaboration with AfricaRice, a CGIAR Center, to evaluate the impact of the West-African grains reserves on food crises caused by price shocks and on establishing social safety nets.
- Designed and conducted surveys on government grains stocks,
- Evaluated the efficiency of grain reserve on food prices level and volatility.

Project Manager at Youth Entrepreneurs Partners (YEP) project *2014 - 2015*

- Managed the project, defined project deliverables and monitored the status of tasks
- Developed a business concept model: the "Enterprise Development Matrix"
- Wrote two books and developed training materials on Entrepreneurship
- Trained young entrepreneurs on starting and running a successful business
- Developed a phone-based application for business plan generation
- Provided seed funds to10 young entrepreneurs
- Counselled and mentored unemployed youth in collaboration with the Benin Ministry of Small Business Administration and the National Office for Employment
- Organized the "weekend of entrepreneurs", a weekly workshop for young entrepreneurs.

Monitoring and Evaluation of the project "Youth and Gender-Based Violence" *2014 - 2015*

- Evaluated the curriculum and the training of Youth on Gender-based violence (GBV) in Namibia
- Mid-Term and final evaluations of the whole project
- Conducted semi-structured assessment interviews involving a vast array of questionnaires designed for the purpose of gathering information on GBV
- Facilitated weekly self-esteem workshops aimed at providing tools for supporting increased confidence and positive self-views

Independent research (ATPS Climate Change Research Grant) on: *2010 - 2012*

1. Rural households' adaptation strategies versus the Government's mitigation and adaptation support: Who shares the burden?
2. Participatory assessment of climate change impacts and adaptations strategies in local communities: the case of Karimama and Malanville (Benin*)*

Consultant on the Project for agricultural development in lowlands areas in Benin. *2011*

- Organized actors with interests/issues related to lowlands into Multi-stakeholders platforms in Mono-Couffo;
- Assisted in needs assessment and action plan development of the Multi-stakeholders platforms.

- Conducted several rapid rural appraisals to build a knowledge database in the area.
- Designed a development program based on the development plan and supported by the knowledge gathered.
- Trained the participants on Participatory Monitoring and Evaluation and set up a participatory and collaborative evaluation unit.

Project Manager at J&D-NGO on the Project "Youth as driven forces behind resilient communities face to climate change (Benin)" *2010 - 2011*

- Helped rural communities in Karimama and Malanville develop sustainable agricultural practices face to climate change
- Designed and conducted a campaign on impacts of climate change on rural populations and indigenous agricultural practices.

Technical Officer on the Program for Hydro-agricultural Development *2010*

- Directed training programs on rice steaming and post-harvest treatment
- Advised and supported inventory and mapping of water resources, their uses, and the rural communities' vulnerability.
- Monitored the program
- Prepared reports, briefing notes, and talking points.

Technical assistant and data Analyst at CEBEDES-Benin on the Project for South-South Cooperation between Benin, Bhutan, and Costa Rica: "Systematization and analysis of the contributions of the national parks and biological reserves to the economic and social development in Costa Rica, Benin and Bhutan" *2009 - 2010*

- Conducted research and training on value chain analysis on forest products;
- Designed and conducted surveys on the value chains,
- Designed and managed the database of the surveys
- Used the data to model the economic and social contribution of the protected area to Benin economy
- Field trip to Costa-Rica to evaluate our partners' methodology and results.
- Managed the technical staff in performance evaluation and approval processes
- Recruited and evaluated consultants, negotiated the contractual agreements, wrote and revised memos and budgetary documents
- Prepared and submitted technical and financial evaluation reports
- Prepared and presented data summaries, research results and policy implications to internal and external collaborators and to policymakers at the Benin National Environment Ministry

Research Assistant, CEBEDES-Benin, on the Project PSC: "Towards community-based biodiversity conservation policies and actions: Learning from actual and potential practices in Benin, Bhutan, and Costa-Rica". *2008 - 2010*

- Oversaw the project, streamlined the chain of command and internal structure roles, relationships, and responsibilities.
- Provided analytical guidance for the assessment of communities' knowledge on biodiversity conservation;
- Analyzed biodiversity policies, laws, and actions in Benin;
- Supported large surveys in inspecting, collecting and analyzing the data and also in proofreading and editing reports, questionnaires and research publications.
- Set up multi-stakeholders platforms in three protected areas: Pendjari biosphere reserve, Lokoli-Koussoukpa swamp forest, and TTK state forest;
- Developed ecotourism around Lokoli-Koussoukpa swamp forest;
- Prepared and assessed policy documents, country programming frameworks;
- Ensured the integration of results-based approach in the programs

Associate Consultant on the Program for Natural Resources Conservation (ProCGRN) in Benin *2009*

- Designed and conducted surveys on land management.
- Undertook background research and analyses on land management
- Provided advice on the institutional framework, indigenous practices and proposed cross-sectorial options based on best practices, lessons learned, and emerging trends to reduce land conflicts

Technical Assistant, CEBEDES-Benin on the Project for Poverty Reduction Strategies through Participatory Monitoring-Target sector: Education in Benin. *2008 - 2009*

- Evaluated progresses realized in the primary education sector, investments, learning outcomes, gender discrepancies
- Conducted several rapid rural appraisals
- Assessment through community scorecards and expenditure tracking methods
- Set up multi-stakeholders platforms planning
- Drafted action plans and led meetings with different stakeholders

Associate Consultant on the study: "profitability of tubers (cassava and yams) in the Collines department (Benin)". *2008*

- Conducted the literature review on tubers and their value chain in Benin
- Organized and partake in consultations/interviews with regional stakeholders to assess the impact of agricultural policies on the tubers' value chain.

Consultant for CEBEDES on impact evaluation of PAMRAD supported projects *2008*

- Designed and conducted household surveys in the Department of Donga
- Supervised, evaluated and provided assistance to 12 survey teams on the field
- Monitored team progresses and ensured deadlines are met
- Analyzed the data and prepared the final reports

Technical Assistant of FIDESPRA on the Project for Poverty Reduction Strategies through Participatory Monitoring. *2008*

- Trained partners (NGOs) on participatory monitoring methods
- Explain work processes to peers and assist in training new staff

Consultant for the Program for Natural Resources Conservation (ProCGRN) on the investigation of households livelihoods in Atacora Department *2006*

- Assisted in designing the survey framework; Conducted the survey around the Pendjari biosphere reserve; Controlled the data quality and data cleaning and management.

PROFESSIONAL ENRICHMENT

Experimental Methods and Survey Design Certificate *2022*
ESRI Geo Apps Certificate *2020*
ESRI Spatial Data Science Certificate: *2020*
Global Strategy and Commerce Certificate Program *2017*
AAEA pre-conference "Big Data in Applied Economics: Knowledge and Applications" *2016*
Certificate GTAP 101: "Introduction to Computable General Equilibrium Modeling" *2016*

PROFESSIONAL AFFILIATIONS & NETWORKS

American Economic Association (AEA) - member
American Agricultural Economics Association (AAEA) – member
British Ecological Society (BES) – member
Association of Environmental and Resource Economics (AERE) - member
Southern Agricultural Economics Association (SAEA) – member

Western Economic Association International (WEAI) - member
American Evaluation Association (AEA) – member
African Goes Digital - Chair
African Technology Policy Studies – member

REVIEWER

International Journal of Hospitality Management
Journal of Agricultural and Applied Economics
Conference on Smart Information & Communication Technologies 2019 (SmartICT 19)

LANGUAGES

English: Excellent knowledge, professional level

French: Excellent knowledge, professional level (Native)

COMPUTER SKILLS

Scientific & Programing Languages: Python, R, Stata , MATLAB, SAS, GAMS, ArcGIS, GeoDa, QGIS, Tableau, NoSQL.

Operating System: Windows, Linux/Unix, DOS

Typography: Microsoft Office, Open Office, Latex

REFERENCES

- Dr. Michael R. Reed, Professor, Department of Agricultural Economics, University of Kentucky, Phone: 859-257-7259, E-mail: mrreed@email.uky.edu
- Dr. Beat Hintermann, Department of Business and Economics, University of Basel (Switzerland), Phone: +41 79 609 31 12, E-mail: b.hintermann@unibas.ch
- Dr. Yuqing Zheng. Associate Professor, Department of Agricultural Economics, University of Kentucky, Phone: 859-257-8842, E-mail: yuqing.zheng@uky.edu
- Dr. Francis Musoni. Associate Professor, Department of History, University of Kentucky, Phone: 859-257-1861, E-mail: fmu223@uky.edu
- Dr. Tyler Mark, Associate Professor, Department of Agricultural Economics, University of Kentucky, Phone : 859-323-1913, Fax : 859-323-1913, E-mail : tyler.mark@uky.edu

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