Maguette Sembene

EDUCATION

Virginia Tech, Department of Agricultural and Applied Economics Ph.D. in Applied Economics Virginia Tech, Department of Agricultural and Applied Economics Master of Science in Agricultural and Applied Economics École Nationale Supérieure d'Agriculture de Thiès, Senegal Agricultural Engineering Degree Expected 2027 2023

RESEARCH INTERESTS

Development Economics, Climate Change Economics, Gender and Labor Economics, Remote Sensing Applications in Agriculture

Publications and Research Papers

Published

• Sembene, M., Mills, B., & Gupta, A. (2025). Economic costs of extreme heat on groundnut production in the Senegal Groundnut Basin. *Food Policy*, 136, 102970.

Working Papers

- "Short-Term Changes in Land Access in the Senegal Groundnut Basin" (2025). With B. Mills and A. Gupta.
- "Land Access, Climate Variability, and Youth Exit from Farming in the Senegal Groundnut Basin" (2025). With B. Mills and A. Gupta.

Other Research and Policy Briefs

- "Groundnut Exports from Senegal to China: Domestic Effects." Sembène, M. (2025). Research paper.
- \bullet "Senegal Ground nut Seed Sector Review" with B. Mills (2024). Report.
- "Gestion de la matière organique du sol dans le bassin arachidier du Sénégal." Mbaye, T., Mills, B., Touré, K., Sembène, M., Diatta, P., & Diédhiou, I. (2022). Policy brief.
- "Utilisation des médias par les jeunes et perceptions du climat et des pratiques agricoles." Sembène, M., Mbaye, T., Touré, K., & Mills, B. (2023). Policy brief.

Conferences and Presentations

"Short-Term Changes in Land Access in the Senegal Groundnut Basin" 2025 Agricultural and Applied Economics Association (AAEA) Annual Meeting, Denver, CO "Economic Costs of Extreme Heat on Groundnut Production in the Senegal Groundnut Basin" 2023

• Department Seminar, Virginia Tech Department of Agricultural and Applied Economics

Research Experience

Virginia Tech | Graduate Research Assistant

2021 - Present

- Conducted primary data collection through in-person interviews with seed producers, traders, and regulators; analyzed satellite data using remote sensing techniques for agricultural productivity assessments
- Applied econometric methods to analyze weather variability impacts on groundnut production in Senegal; utilized GPS technology and QGIS for spatial analysis and parcel mapping
- Authored comprehensive groundnut seed-sector review; contributed to research briefs on youth and gender roles in agriculture examining field access and climate resilience
- Participated in drafting Institutional Review Board protocols and informed-consent documents for large-scale household surveys

- Analyzed survey data using R statistical software to identify gender and age disparities in groundnut production revenues
- Produced 50-page undergraduate thesis analyzing patterns in agricultural gender disparities with policy implications

TECHNICAL SKILLS

Programming & Statistical Software: R, Python, Stata, MATLAB, Excel

Research Tools: LaTeX, Tableau Languages: French, English, Wolof

GRANTS AND FELLOWSHIPS

Paul J. Driscoll Fellowship	2023, 2024
Graduate Assistantship at Virginia Tech	2021-Present
Senegalese Government Excellence Scholarship	2016
Honors and Awards	
Outstanding Master's Thesis Award, VT Graduate School	2023
Award for Innovation at the University of Thiès, Senegal	2020
Winner of the Student Scientific Article Writing Competition	2018
Additional Professional Experience	

Ferme Wa Keur Khadim | Research Intern

2019

 Conducted land prospection and socio-economic analysis; performed parcel mapping using GPS technology for spatial analysis

Regional Inspection of Water and Forests of Dakar | Research Intern

2018

• Identified coordination mechanisms and stakeholders within regional environmental services

École Nationale Supérieure d'Agriculture de Thiès | Research Intern

2016

Analyzed community sociology and economics; participated in agricultural fieldwork and reported findings

References

Dr. Bradford Mills

Advisor, Professor

Department of Agricultural and Applied Economics Virginia Tech

205A Hutcheson Hall, Blacksburg, VA 24061, USA

Phone: +1-540-231-6461 Email: bfmills@vt.edu

Dr. Anubhab Gupta

Assistant Professor

Department of Agricultural and Applied Economics Virginia Tech

205B Hutcheson Hall, Blacksburg, VA 24061, USA

Phone: +1-540-231-0912 Email: anubhab@vt.edu