THERESA NG'ANDU

Address: 427 Lorch St, Henry Taylor Hall 521, Madison, WI 53706

Email: tngandu@wisc.edu; **Website**: theresangandu.com; **Phone**: +1 (608)-886-1314

EDUCATION

Ph.D. Candidate, Agricultural and Applied Economics, University of Wisconsin – Madison, August 2022 – Present

Includes microeconomics, macroeconomics, and econometrics sequence with the Economics department

Certificate in Higher Education Teaching and Learning, University of Wisconsin – Madison, September 2025

MS in Agricultural and Applied Economics, University of Wisconsin – Madison, June 2024.

B.A. with Honors, Major in Economics, and Minor in French, Swarthmore College, May 2019

RESEARCH FIELDS

Development economics, Environmental and health economics, Economics of Education

WORKING PAPERS

Flooding and Health Outcomes in Zambia

I study the impact of flooding on the incidence of vector-borne diseases such as malaria and waterborne diseases such as cholera, typhoid, dysentery, and non-typhoid, non-dysentery diarrhea in Zambia. I use monthly data on confirmed cases of malaria and cholera, and clinical cases of typhoid, dysentery, and non-typhoid, non-dysentery diarrhea from the Ministry of Health, along with NASA MODIS 2-day flood products, from 2012 to 2024. I analyze the data at the ward level, which is the smallest administrative boundary in Zambia. I use month-year fixed effects to control for seasonality, ward fixed effects for baseline ward characteristics, and district-by-year fixed effects to control for regional shocks. I include three-month lags for estimations involving malaria, and two-month lags for those on waterborne diseases to fully capture the dynamic effects of floods. Estimating a Poisson pseudo-maximum likelihood with high-dimensional fixed effects (PPMLHDFE), I find that floods of any duration will increase the incidence of malaria, and that longer periods of flooding will increase the incidence of waterborne diseases such as dysentery. I

do not find the expected effects for prolonged flooding on the incidence of other waterborne diseases such as cholera, typhoid, or diarrhea. A back-of-the-envelope calculation of the costs incurred shows that for the 545 wards that experience sustained 7-day flooding in our sample, the total lower-bound cost for general malaria case management is $682,340, which is about 45% of CDF (constituency development funds) allocated to each constituency.

Upcoming Presentations: *Association of Environmental and Resource Economists (AERE) at the Southern Economics Association (SEA) Conference, 2026; Allied Social Sciences Association (ASSA) Conference, 2027*

Presented at*: CSAE Conference 2026 Economic Development in Africa, 2026; Association of Environmental and Resource Economists (AERE) at the Western Economic Association International (WEAI) Conference, 2025*

RESEARCH IN PROGRESS

Development and Flooding in Zambia

I study how rapid development, as measured by deforestation and the appearance of impervious surfaces in Zambia, affects the prevalence of floods from 2012 to 2019. I use deforestation data from Global Forest Change (Hansen et al 2013) and dynamic impervious surfaces data (Huang et al 2021) to examine the impact, leveraging the year-to-year changes in deforestation and impervious surfaces as a source of variation. Preliminary results show that deforestation has a larger effect on increasing floods than increasing total impervious surface area or even increasing marginal impervious surface area.

Presented at: *Interdisciplinary Ph.D. Workshop on Sustainable Development, Columbia University, 2025*

Automatic Grade Progression Policy, Education Attainment, and Child Labor

I examine the impact of the automatic grade progression policy implemented by the Zambian government from 2013 to 2022 on educational attainment and child labor for affected individuals of school-going age. I use the annual enrollment and school infrastructure data from the Ministry of Education, school-level grade 7 and grade 9 national examinations data from the Examinations Council of Zambia (ECZ from 2012 to 2020, and match districts to the 2012 to 2020 Labor Force Participation Surveys compiled by the Zambia Statistics Office (Zamstats). I leverage the fact that while the policy was introduced in 2013, it was only in 2018 that it was emphasized, and therefore, school supply constraints were removed to define the treated cohorts. I use a difference-in-differences estimation strategy where treatment is defined as an individual residing in a district with failure rates above 50%. I then compare outcomes with similar individuals residing in districts with schools that have lower grade 7 examination failure rates.

RESEARCH EXPERIENCE

Research assistant for Professor Jeremy Foltz, May 2023 – December 2024

Projects: Climate change and conflict in Mali

Research Analyst, Compass Lexecon – London, UK, and Chicago, IL, October 2019 – June 2022

TEACHING EXPERIENCE

Teaching Assistant for Professor Dustin Frye, AAE 101: Introduction to Agricultural and Applied Economics, Spring 2026

Teaching Assistant for Professor Tessa Conroy, AAE 101: Introduction to Agricultural and Applied Economics, Fall 2025

Teaching Assistant for Professor Jeremy Foltz, AAE 350: World Hunger and Malnutrition, Spring 2025, Summer 2025

SKILLS AND LANGUAGES

Language mastery: Fluent in Bemba (native), English, French, and Nyanja; working proficiency in Spanish, and elementary proficiency in Kaonde.

Technical: STATA, SAS, LaTeX, Python, Julia, GitHub, Matlab, MS Word, Excel, PowerPoint, QGIS, ArcGIS

FELLOWSHIPS, AWARDS, and GRANTS

AAE Outstanding Graduate Student Teaching Prize for the 2025–2026 Academic Year

AAE Department Travel Grant ($1000), Agricultural and Applied Economics, University of Wisconsin – Madison, Fall 2026

AAEA Teaching Academy Travel Grant ($500), AAEA, 2026

Barbara Forest Travel Award ($1000), Agricultural and Applied Economics, University of Wisconsin – Madison, Spring 2026

Zambia Evidence Lab (ZEL) Ph.D. Fellow, International Growth Centre and Zambian Ministry of Finance and Planning, 2025

Student Research Grants Competition ($600), University of Wisconsin – Madison, 2025

International Growth Centre (IGC) Exploratory/Pilot Work Research Grant ($36,000), 2023

Travel award for the Berkeley/Sloan summer school in Environmental and Energy Economics ($900), 2023

Two-year Academic Graduate School Fellowship, University of Wisconsin-Madison, Agricultural and Applied Economics Department, 2022

Swarthmore College Hannah A. Leedom Fellowship Award ($5,000), 2022

PROFESSIONAL SERVICE

Agricultural and Applied Economics Association (AAEA) 2026, Quiz Bowl Volunteer Judge

Association of Environmental and Resource Economists (AERE) @ Western Economic Association International (WEAI) 2026 Abstract Reviewer

Association of Environmental and Resource Economists (AERE) 2025 Conference Abstract Reviewer

Agricultural and Applied Economics Association (AAEA) 2025 Conference Abstract Reviewer

GRADUATE SCHOOL SERVICE

Student Research Colloquium (SRC) Coordinator, Agricultural and Applied Economics Department, University of Wisconsin – Madison, 2024 – 2025

Justice, Equity, Diversity, and Inclusion (JEDI) Committee Co-Chair, Agricultural and Applied Economics Department, 2023 – 2024

Mentor, GRADLINK, University of Wisconsin – Madison, 2025

DISSERTATION COMMITTEE AND REFERENCES

Professor Jeremy Foltz, Ph.D. (Advisor and Chair), Agricultural and Applied Economics

Email: jdfoltz@wisc.edu

Professor Priya Mukherjee, Ph.D., Agricultural and Applied Economics

Email: priya.mukherjee@wisc.edu

Professor Rhiannon Jerch, Ph.D., Agricultural and Applied Economics

Email: rhiannon.jerch@wisc.edu

Professor Dustin Frye, Ph.D. (For Teaching), Agricultural and Applied Economics

Email: dustin.frye@wisc.edu