

Energy Poverty PIRE in Southern Africa



What is Energy Poverty?

Energy poverty is a lack of access to modern energy sources and reliance on solid fuels. In sub-Saharan Africa, an estimated 620 million people lack access to electricity, and 730 million use solid biomass and inefficient stoves as their primary source of cooking energy. Energy poverty has implications for human health and well-being, environmental sustainability and climate.



What is EPPSA?

The Energy Poverty PIRE in Southern Africa (EPPSA) is a 5-year program funded by the National Science Foundation's Partnerships in International Research and Education (PIRE) program.

We have three broad objectives:

- 1) Evaluate the environmental and human well-being impacts of real-world energy poverty interventions
- 2) Investigate the social, demographic, and spatial dimensions of energy poverty and consider the optimal scale of interventions to maximize environmental benefits and human well-being
- 3) Train over 70 postdoctoral, graduate and undergraduate researchers in interdisciplinary collaborative research in low resource settings

Why Study Energy Poverty in Southern Africa?

Malawi, Zambia, and Zimbabwe are excellent sites for comparative research because of shared characteristics, such as the dominance of miombo woodland ecosystem, high rates of deforestation, limited access to global markets, high population growth and poverty rates, and climate risk and vulnerability. They also have important differences:

- Malawi has very low levels of electricity coverage and high reliance on firewood and charcoal and traditional cooking technologies
- Zambia is making strides in increasing energy access through private sector investment and support for markets for clean energy and technologies
- Zimbabwe has more people living in energy poverty now than 20 years ago; investment in clean energy and technologies is limited

Collaborating Institutions

US Based Institutions

- North Carolina A&T State University (NC A&T)
- North Carolina State University (NC SU)
- RTI International (RTI)
- University of North Carolina - Chapel Hill (UNC)
- Winston Salem State University (WSSU)

International Partners

- Center for International Forestry Research (CIFOR)
- Copperbelt University (Zambia; CU)
- Lilongwe University of Agriculture & Natural Resources (Malawi; LUANAR)
- University of Zimbabwe (UZ)



Undergraduate Student Opportunities

Undergraduate Energy Poverty Fellows (UEPFs) (UNC-CH, NCSU, NC A&T & WSSU)

Ten undergraduate students (~2 per summer) will be selected as UEPFs, starting in summer 2018. Students will spend the summer (early May through mid-August) preparing for and engaged in research on energy poverty in Southern Africa. Students will work with EPPSA faculty and the broader research team on planned impact evaluations in Malawi, Zambia and Zimbabwe, on population-level sociodemographic and spatial analyses, or on engineering or forestry topics related to EPPSA. We seek students from a broad range of disciplines who have some practical or research experience in environment, international development, or energy.

EPPSA CPC Summer Internship in Population and Environment

To prepare undergraduate students for research careers in the social sciences focused on population and environment, we will offer 2 funded internships to undergraduate students during the summer before their senior year who are interested in a Chapel Hill based research internship. EPPSA Carolina Population Center (CPC) Summer Internships in Population and Environment specifically target minority undergraduates at UNC-CH, NCSU, NC A&T, and WSSU. The EPPSA CPC Summer Internship includes GRE preparation and a research practicum overseen by a CPC Research Fellow.

NCSU RISE Program

In the RISE program in the NCSU Department of Civil, Construction and Environmental Engineering, students participate in a faculty-mentored summer research project and weekly seminars and workshops to prepare for graduate school and professional environments. Students from under-represented groups are strongly encouraged to apply.

Graduate Student Opportunities

EPPSA Graduate Energy Poverty Fellows (4-year opportunities) (UNC-CH & NCSU)

We are recruiting 10 graduate students as Energy Poverty Fellows (EPFs). Six doctoral students will be appointed as EPFs at UNC-CH (Departments of Anthropology, Environment and Ecology, Geography, Public Policy and Sociology); 4 doctoral and masters students will be appointed at NCSU (Departments of Civil, Construction and Environmental Engineering, and Forestry and Environmental Resources). Students should matriculate in 2018 or 2019 in order to participate as EPFs. EPFs will form an interdisciplinary cohort that will benefit from training and resources at UNC-CH and NCSU as well as collaboration with our partners in North Carolina and in Southern Africa.

EPPSA Graduate Energy Poverty Fellows (1-year opportunities) (UNC-CH only)

One-year EPPSA Dissertation Completion Fellowships are available to advanced PhD students interested in doing research on some aspect of energy poverty in the developing world. Eligible students are those who have completed all course requirements, passed written and oral preliminary exams, have a dissertation prospectus formally approved, and have a plan to complete the PhD during the fellowship year. Energy Poverty Dissertation Fellows are encouraged, but not required to participate in planned impact evaluation studies.



EPPSA Summer Internships at RTI International

In collaboration with RTI International, EPPSA will offer up to 4 internship opportunities each summer (2018-2023). Internships are open to undergraduate and graduate students at UNC-CH, NCSU, NC A&T and WSSU.



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