



## Open call for Research Proposal

Arba Minch University, in partnership with **Vita/RTI Ethiopia**, wishes to carry out two research projects in the academic year of 2018 E.C. The focus of the research will be on Measuring Changes in Household Air Pollution (HAP) resulting from the Adoption of Improved Cookstoves (Mirt and Efoy) in Selected Households across Six *Kebeles* in Arba Minch Zuria, Birber town administration, and Mirab Abaya Woredas of Gamo Zone, southern Ethiopia.

The School of Graduate Studies would like to extend an invitation to AMU-based faculty members or researchers who advises postgraduate students on how to apply for this research funds.

### Title 1:

**Measuring Changes in Household Air Pollution from Improved Cookstove (Mirt and Efoy models) Adoption in Selected Districts of Gamo Zone**

### Why This Matters

**Problem:** Household air pollution from traditional biomass cooking poses severe health risks, particularly for women and children in rural communities, contributing to respiratory illnesses and environmental degradation.

**Solution:** This study provides crucial evidence by measuring changes in air pollution levels resulting from the adoption of improved cookstoves (Mirt and Efoy models) in selected households across six kebeles in Arba Minch Zuria (Dega Shara, Genta Kanchama Ochole & Dega Ocholo), Berber town administration (Berber Delbo, Berber Mole), and Mirab Abaya (Yayke Kebele) woredas of Gamo Zone.

### Study Objectives

- Quantify baseline household air pollution levels in traditional cooking settings
- Measure reduction in PM2.5 and CO levels following improved cookstove adoption
- Compare effectiveness between Mirt and Efoy stove models
- Assess user adoption challenges and preferences
- Provide evidence-based recommendations for scaling clean cooking solutions



## Where

**Six selected kebeles** across Arba Minch Zuria, Berber town, and Mirab Abaya woredas/districts in Gamo Zone, Southern Ethiopia.

**Two control Kebele** from Arba Minch Zuria wereda Tsingo koyira kebele and Mirab Abaya wereda Dega Done kebele

## Methodology

A mixed-methods approach will be employed, integrating both quantitative and qualitative data collection techniques. Standardized Sampling and sample sizes will be employed.

## How

- **Baseline Assessment:** Comprehensive surveys on cooking practices and kitchen environments
- **Air Quality Monitoring:** Pre- and post-intervention measurement of PM2.5 and CO concentrations
- **Controlled Comparison:** Households maintaining traditional practices serve as control group
- **Stakeholder Engagement:** Focus groups and interviews to understand user experiences

## Expected Outcomes

- Significant reduction in household air pollution levels
- Improved health outcomes for women and children
- Reduced fuel wood consumption and environmental impact
- Policy recommendations for clean cooking program expansion

## Timeline

- 3 Months (Baseline → Intervention → Monitoring → Analysis → Reporting)

## Impact

This study will generate essential evidence demonstrating the effectiveness of improved cook stoves in reducing household air pollution in real-world settings. The findings will support national efforts toward achieving Sustainable Development Goals for health (SDG 3) and clean energy (SDG 7).



## Contents of Concept Note

This concept note will utilize the provided **title** and begin with a one-page **introduction** to establish the project's broad context and central rationale, followed by a one-page, evidence-based **statement of the problem** that clearly defines the specific issue and the gap the project aims to address. The **objectives** will use or modify the given ones to present a clear set of specific, measurable goals, which directly inform the subsequent research questions designed to guide the inquiry. A comprehensive two-page **materials and methods** (Methodology) section will detail the operational plan, including design, procedures, and analysis, leading into a practical **activity plan** that outlines the timeline and sequence of key tasks, all supported by a detailed **financial plan** that itemizes and justifies all anticipated costs required for successful implementation.

Deadline for submission: **September 30, 2025**

**Contact Us to Get Involved or Learn More:**

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## Title 2

### **Proving What Works: A Community-Centered Study on Clean Air Solutions in Gamo Zone**

#### **Why This Matters**

**Problem:** In the rural kitchens of Gamo Zone, the simple act of cooking a meal poses a severe health threat. Reliance on open fires fills homes with dangerous smoke, a primary cause of pneumonia, heart disease, and preventable deaths among women and young children.

**Solution:** This initiative is about action, not just analysis. We are partnering with communities to rigorously test and validate real-world solutions. By measuring the health and environmental benefits of improved cookstoves where it matters most—in people's homes—we aim to build a powerful case for change that is rooted in local evidence and experience.



## Study Objectives

- Capture the true baseline of air quality and health burdens in participating households.
- Quantify the real-life effectiveness of Mirt and Efoy stoves in reducing toxic smoke and fuel needs.
- Discover the community's perspective: what makes a stove desirable, practical, and worth using every day?
- Identify the key barriers—from cost to culture—that can hinder the long-term success of clean cooking programs.
- Develop a co-designed implementation guide for scaling up proven solutions across Ethiopia.

## Where

- **Six** selected kebeles across Arba Minch Zuria, Berber town administration, and Mirab Abaya woredas, Gamo Zone, Ethiopia.
- **Two control Kebele** from Arba Minch Zuria wereda Tsingo koyira kebele and Mirab Abaya wereda Dega Done kebele

## Methodology

- A mixed-methods approach will be employed, integrating both quantitative and qualitative data collection techniques. Standardized sampling and sample sizes will be employed.

## How

- **Deep Listening:** Starting with community dialogues to ensure our research addresses real needs and earns trust.
- **Evidence for Change:** Using precise monitoring equipment to capture the stark difference in air quality before and after stove adoption.
- **Rigorous Comparison:** Maintaining a control group to scientifically attribute any changes directly to the new stoves, ensuring our data is undeniable.
- **Amplifying Voices:** Conducting in-depth interviews and focus groups with women to center their experiences, preferences, and insights in our findings.

## Expected Outcomes

- Hard data proving a significant drop in exposure to harmful PM2.5 and carbon monoxide.
- A clear understanding of how cleaner air translates into fewer coughs, eye infections, and missed school days for children.



- Verifiable stories and numbers showing less time spent gathering wood and money saved on fuel.
- An actionable framework, created with community input, for government and NGOs to launch effective and sustainable clean cooking initiatives.

## Timeline

- 3 Months (Community Mobilization → Baseline Data Collection → Stove Distribution & Training → Endline Data Collection → Collaborative Analysis).

## Impact

This project goes beyond publishing a paper. It's about generating the kind of compelling, locally-sourced evidence that prompts decision-makers to invest in clean air. Our findings will provide the blueprint to secure funding, shape policy, and ultimately, ensure that healthier kitchens become the new norm for families in Ethiopia and beyond.

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