

Eligible countries:

We are accepting proposals that will work in **one** of the following countries: Bangladesh, Cambodia, Ghana, India, Nepal, Uganda, Tanzania, and Zambia. Consultants should not apply to work in more than one country.

Project Outline

Modern Energy Cooking Services (MECS) Programme, funded by UK Aid (FCDO), aims to accelerate a transition from biomass to genuinely 'clean' cooking with electricity or gas. The transition to cooking with clean and renewable electricity is strongly driven by its potential to become affordable in the near future. The affordability of cooking with electricity depends not only on the efficiency and characteristics of appliances but also on the daily behaviour of their users. For instance, the study by [Oliveira \(2012\)](#) found that actions made by cooks can increase electricity consumption more than three times than necessary to complete the cooking task. While recent long-term data measured directly through the Internet of Things digital monitoring shows a consistent use of eCooking appliances and a gradual increase in energy consumed, there have been focal group discussions where people have said they had stopped using eCooking appliances or started using them much less than initially intended, because of higher-than-expected electricity bills. While these voices were not echoed by the majority, it nevertheless seems worthwhile to investigate why some people have this experience (and to know how to help them get an energy-efficient and cost-effective experience). We assume the reason for that is the behaviour of the cooks, whose cooking practices are not energy-efficient.

A lot of work in the clean cooking space is focused on the technical aspects of cooking appliances, evaluating and optimizing their efficiency and emissions. Standard cookstove tests, such as the Controlled Cooking Test (CCT) and Water Boiling Test (WBT), are performed in the absence of end users and do not include insights into how people cook. The Kitchen Performance Test (KPT), on the other hand, is conducted in kitchens of real households but captures a limited set of household data useful for cookstove sales and distribution. In response, MECS developed the Cooking Diaries Protocol ([Leary et al., 2019](#)) to combine cooking behaviour insights with quantitative measures of energy consumption in households aiming to understand how existing cooking practices are compatible with modern energy cooking products and services. Building upon the MECS Cooking Diaries Protocol, this study focuses on linkages between cooking behaviour and electricity consumption.

We are seeking a consultant/s/organisation to complete an ethnographic study on kitchen behaviours that lead to increased electricity consumption.

Aims

We aim to target users of electric cooking appliances – including, but not limited to electric pressure cookers (EPCs)/multi-cookers, induction stoves (EIC), infrared/hot plate stoves, kettles, air fryers, and microwaves – aiming to identify specific cooking behaviours that lead to increased electricity consumption in households. The results are going to be used to define behaviour change interventions and electric cooking product modifications toward reduced energy consumption.

Research questions to be addressed through the study

1. How does the way people use electric cooking appliances to prepare food and drinks influence electricity consumption?
2. What influences cooking behaviour in households?
3. What behaviours increase electricity consumption during the cooking process (including food preparation, cooking, and serving)?
4. What energy-saving behaviours do households use to save different cooking fuels (including biomass, charcoal, kerosene, LPG, and electricity)?

Scope of Work

We propose ethnography as a research strategy to successfully respond to the research questions. The study will require enumerators to physically visit participant houses to implement the following data collection techniques:

1. **One-to-one interviews** with each participating cook before the study starts;
2. **Participant observations** over 1 day (at least two food and/or drink preparation events) to record all cooking behaviours and match them with energy saving and wasting behaviours from the literature (i.e., staying near the appliance during use; using the highest power settings to cook faster; etc.);
3. **Energy monitoring** of the primary electric cooking appliance over 1 week using energy meters;
4. Moderation of **mobile research** via WhatsApp chats to record dishes prepared and energy meter readings before and after the recorded cooking events;
5. **Exit one-to-one interviews** with each participating cook;
6. **Analysis of collected data.**

The research aims to capture genuine user behaviours in an uncontrolled kitchen environment, therefore, interviews and participant observations (i.e., what enumerators say and do) must not affect the way people cook. There should be approximately 25 participants equally representing different income levels and geographic areas.

Deliverables, budget, and duration

The research is expected to commence no later than **25th October 2024**. All deliverables must be completed and delivered no later than **31st January 2025**.

The consultants/organisation should demonstrate in their response to these ToRs the timeline for completing the work and how the work can be completed within the time available.

The total budget is a maximum of **£20,000** (ex VAT where applicable).

Payment is contingent on the successful completion of all deliverables:

Deliverable	Payment value
Contract signing	40%
Completion of first 5 cooking observations	20%
Submission of data from all remaining cooking observations, entry and exit interviews	20%
Final report and summary PowerPoint	20%

Responding to these ToRs

Each submission will be evaluated based on the following combination of price and quality;

Quality	Score
Appreciation and understanding of the task.	5%
Quality of proposal and methodology	50%
Skills, expertise and experience of consultant/organisation team members including evidence of similar work completed	10%
Proposed management of the activities including Gantt chart	5%
Price and costs	30%
Total	100%

The University will accept the quotation which is the best value for money i.e. a balance between cost and quality. Shortlisted organisations may be invited to an interview (online) to finalise selection.

The response should be a maximum of 12 pages (plus up to 3 CVs, 2 pages each). It should be sent to mecs@lboro.ac.uk with the subject 'Cooking behaviours'. The proposal must be received by **23:50 BST on Thursday 19th September 2024**.

Contract Management

This contract will be managed by **Dr Louise Medland**. All deliverables should be emailed to them on or before the date required. Loughborough University reserves the right to request the consultant to make revisions to the deliverables if they do not meet the required quality. The consultant will be required to make these revisions at no additional cost to Loughborough University.

Appointments to discuss the overall progress against the contract will be agreed at mutually convenient times to the consultant and the project manager.

Ethical considerations

All research must be in line with the [Code of Practice for research, Promoting good practice and preventing misconduct](#) (UK Research Integrity Office, 2009).

The UK Research Integrity Office (UKRIO) is an independent charity, offering support to the public, researchers and organisations to further good practice in academic, scientific and medical research. Its confidential advice service is available to free of charge to individuals (members of the public, research participants, patients, researchers and students) and subscribing organisations. Their advice service can be [accessed here](#).

At a minimum, participants must not be subjected to physical, social, legal or psychological harm. Due consideration and ethical steps must be taken into safeguarding all participants, especially the vulnerable. A detailed Participation Information Sheet explaining the full scope of the study, what confidentiality entails, and that no participants will be forced into participating, must be provided at recruitment. Participants are to be made aware that participation is fully voluntary and there are no repercussions if they choose to no longer participate in the study at any point in time. Participants should, ideally, sign a consent form which includes consent for the use of photographs and videos.

Confidentiality must be maintained at all times. With regards to confidentiality and privacy of participation, participants must be informed that their anonymity will be maintained in any outputs and that all identifiable markers will be removed from any data sets that are published.

The consultant will be responsible for securing any research or ethical permissions needed from local authorities in each of the field work locations. There may be additional ethical, or research clearance needed for this kind of user centric design research in the chosen country.

MECS is funded by UK Aid through the Foreign and Commonwealth Development Office. It is a partnership between researchers, innovators, policy makers, and ESMAP drawing on their expertise and relevant work from around the world to co-construct new knowledge with practitioners and the private sector. It is led by Loughborough University, UK.