Project Outline/Introduction

This Terms of Reference calls for a Landscaping study (with field work) on the intersect between Informal Settlements and the potential of eCooking. As eCooking in Low and Middle Income countries moves from being a niche technology to a mainstream option, this study should document the infrastructural barriers, and suggest the details that those working in informal settlements should look for when planning a project.

We accept the wider definitions of informal settlements, often referred to as slums or shantytowns, predominantly residential areas where inhabitants lack secure tenure, basic services, and adequate housing. We note that Sustainable Development Goal (SDG) 11 outlines the goal of decent housing for all by 2030. A 2021 report from Habitat for Humanity International found that SDG 11.1 was actually regressing. The number of people living in slums or other informal settlements has grown by 165 million in the past 20 years, bringing the total to nearly 1.1 billion. These settlements seem to arise from rapid urbanization and insufficient infrastructure to accommodate the growing population. Globally, it is estimated that over one billion people live in such conditions, with major concentrations in regions like Sub-Saharan Africa, South Asia, and Latin America. These settlements pose significant challenges for urban planning, public health, and social equity, necessitating comprehensive policy interventions to improve living conditions.

In this context what are the possibilities for eCooking, and in the same way that we seek to research the intersect of SDG7.1.1 (electricity access) to leverage and create gains in modern energy cooking, so too we wish to understand the constraints, challenges and opportunities of working in informal settlements. In recent research, one of our partners defined over 60% of Kampala Uganda as an informal settlement – i.e. with the absence of one or more services and a tenuous legality to their land occupation. While we accept that with that definition a large portion of Kampala is classified as informal – what are the realities of day to day life?. If one service is absent – does that mean that other services are present. Where does the provision of electricity fit in this scene.

Informal settlements are said to access electricity through a variety of means, often reflecting the lack of formal infrastructure. In some cases, residents may tap into nearby power lines illegally, creating dangerous and unreliable connections. Others are said to use informal networks where local entrepreneurs provide electricity at a higher cost. Some settlements might utilize off-grid solutions like diesel generators, solar panels, or community-based micro-grids to meet their energy needs. The lack of secure and regulated electricity access can apparently lead to issues of safety, affordability, and sustainability in these communities. Reports have suggested that electricity can sometimes be accessed but through intermediaries (landlords, neighbours), who can sometimes charge more than the national tariff, who can limit the use of the electricity (prevent secondary users from cooking), and offer low quality connections that cannot safely transmit electricity for devices over 500W consumption. We are aware of approaches such as those found in the Philippines where the grid utility delivers electricity to near the settlement and then intermediaries connect inward to households.

Eligible countries

We are accepting proposals that will work in **one** of the following countries: Bangladesh, Cambodia, Ethiopia, Gambia, Ghana, Haiti, Indonesia, Lao People's Democratic Republic, Lesotho, Liberia, Madagascar, Malawi, Mozambique, Myanmar, Pakistan, Rwanda, Sierra Leone, Tajikistan, Vietnam, Zambia and Zimbabwe. Other Asian and Pacific small island developing States (SIDS), can be considered on a case-by-case basis.

Scope of Work

MECS research has generated evidence that eCooking with energy efficient appliances can in many contexts be the cheapest form of clean cooking. However, for that to be realised households need reliable access to electricity. This study is about clarifying the infrastructural barriers, constraints and opportunities and suggesting the sort of details that those working in informal settlements should look for when planning a project.

Key research questions to be addressed are;

1. What are the key issues/constraints to electricity access in the study area/s
2. Are these key issues/constraints common across the study areas or are there differences between and within the study areas (e.g. due to diversity of populations, income levels, geographies etc).
3. Within the constraints of the key issues which need to be addressed by state and municipal actors, what could civil society and private sector do to improve access to reliable, sustainable access to modern energy (electricity) that would be strong enough to cook with i.e. eCooking?*
4. Are there possibilities for improved electricity access inclusive of eCooking even if the macro issues are not yet addressed**.

*We note that multiple fuels such as LPG, Ethanol, briquettes, etc can give a modern energy cooking experience with minimal household air pollution. They can be accessed even in the absence of one or more other services. However, this landscaping TOR is directly about the link between, and possibilities of, electricity access and eCooking. Other fuels should be cited only when referring or comparing to eCooking barriers and possibilities, and there should not be detailed case studies of other fuel services (eg PAYGO LPG) except where it is a referent comparator to eCooking (e.g. experience with PAYGO LPG services, may give insight into eCooking PAYGO services).

**We note that the use of off-grid technologies such as Solar Photovoltaic panels which are now cost effective, can sometimes be stolen. Are there innovative approaches which have promise?

Approach

The research questions should be answered through a combination of literature review/desk study and ground realities found during the fieldwork.

Field work in up to three locations within one country can be proposed. The fieldwork should included data collection to provide detailed information on the type of intermediaries who offer electricity, the cost and power consumption boundaries they impose, and the possibilities of residents ability to work around these constraints.

The proposal should include a clear data collection plan with specific methods/tools to be utilised.

Getting access to collect data in informal settlements can be challenging. The proposal should outline what links to suitable authorities already exist in order to facilitate smooth access to the necessary communities.

Deliverables, budget, and duration

Deliverables

- Copies of any data collection tools used
- An interim report covering field work data collection analysis (at
- A final report covering the research questions outlined above (1-4) and the inclusion of 2 people focused stories/vignettes from each fieldwork location (max. 6)

A vignette is a descriptive story accompanied by an image, or series of images, or a short video (e.g. a talking head). Vignettes should be developed, in collaboration with willing research participants, during the data collection phase. Consent forms for the collection and use of personal images must be used and provided to MECS as part of the final reporting.

Dates

The assumed start date is as soon as possible but latest by 1st November 2024. All deliverables must be completed and delivered no later than **15th February 2025.** This date is non-negotiable. The consultant should demonstrate in their response to these ToRs how the work can be completed within the time available.

Budget

The total budget is a maximum of **£18,000** (including any locally applicable taxes and costs).

Payment is contingent on successful completion of all deliverables.

Deliverable	Payment value
Contract singing	40%
Interim report	30%
Final report	30%
Total	**100%**

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.

Responses should be a maximum of 12 pages (plus up to 3 CVs, 2 pages each).

Please send all responses to mecs@lboro.ac.uk with the subject '**Informal settlements'.** All proposals must be received by **Thursday 19th September 2024, 23:55 BST.** Proposals received after this time will not be considered.

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.