

eCook Pre-feasibility Customer Survey Questions

1 Aim

The aim of this document is to guide mini-grid developers in which questions to ask during a customer survey to collect the information required to carry out a pre-feasibility survey for electric cooking on a particular mini-grid.

2 Assumptions

These pre-feasibility questions focus on existing fuel expenditures and food types because:

- Customers are likely to be more receptive to the idea if they are already paying for their cooking fuel (and can substitute existing expenditure on other fuels to pay for the mini-grid service).
 - If they are not paying for their fuel, they may still be responsive if they can see fuel becoming more scarce and the time spent collecting it is valued.
- Recent data suggests that electric pressure cookers hold a number of advantages over hotplates and even induction cookers, including using considerably less electrical energy on certain foods.
- Electric pressure cookers can be left unattended and trials suggest many people value the release of time and the cleanliness they offer – suggesting that for many people, there is a strong aspirational motivation to adopt them (others are initially scared of the new technology and will need convincing).

3 Who to ask

Assuming that women are the main cooks, women in households already connected to the mini-grid will be the primary stakeholders. Information could be gathered by interviewing individual women or by bringing them together in a focus group. Community leaders or representatives from local women's groups are likely to be able help select women to interview or invite to participate in a focus group. They may also be able to direct you towards specific people for further investigation, such as charcoal/firewood/gas salespeople and restaurant owners/street vendors.

4 What to ask

- Is anybody paying for their cooking fuel?
 - If so:
 - Which fuel?
 - How much are they paying and how many people are paying this?
 - What are their expenditures?
 - Daily/weekly/monthly (e.g. 1,000KSh per month on charcoal or LPG)
 - OR regular purchases and frequency (e.g. a sack of charcoal or LPG refill for 2,000KSh every 2 months)
 - Have these costs been increasing, has the proportion of purchased fuel been increasing?
 - If not:
 - Is woodfuel (or other collected fuel) becoming more difficult to obtain?
 - How far do people typically have to travel to collect it?
 - Is that time valued?
- Is anybody making a living from cooking?
 - e.g. restaurants, street vendors
 - If so:
 - What are their fuel expenditures (as above)?
 - Have these costs been increasing?
 - What are their revenues?
 - Could these increase if cooking became easier?
 - What are they cooking (see below)?
- What kinds of foods are people cooking?
 - How often (e.g. number of times a week) do people typically cook the following foods:
 - Most importantly, 'heavy foods'?
 - 'Medium boil' foods and water (tea, bathing, purifying etc.)?
 - 'Quick fry' foods?
 - 'Long fry or deep fry' foods?
 - Are they typically cooked from fresh or in batches, with portions later reheated?
 - When are they typically cooked?

- Which fuels are typically used to cook each type of food?
- How many people live in the average household?

4.1 Food classifications by energy-saving potential

The following section includes examples of foods from Kenya and Tanzania, but the same categories are likely to apply in many other contexts too.

‘Heavy foods’ like beans, meat stew or makande/githeri generally require boiling for 60 minutes or more. They are easy to cook on an electric pressure cooker, which can offer significant energy savings over electric hotplates. They include:

- Makande/githeri - beans & maize stew
- Maharage/kamande/ndengu/peas – beans/lentils/green grams/peas
- Nyama/samaki/mboga mchuzi – meat/fish/veg stew
- Matumbo – tripe
- Mokimo – mashed potatoes with maize/beans/peas/pumpkin leaves

‘Medium boil’ foods and water that require boiling for 15 minutes or more can also be cooked on an electric pressure cooker, with moderate energy savings. They include:

- Ugali
- Pilau
- Wali – rice
- Ndizi/matoke – bananas/banana stew
- Viazi/pumpkin/nduma/muhogo – boiled potatoes/pumpkin/arrow roots/cassava
- Uji – porridge
- Pasta/noodles
- Heating water for tea/coffee, bathing, drinking etc.

‘Quick fry’ foods can also be cooked on an electric pressure cooker, but some households may be reluctant to try and/or there are limited energy savings. They include:

- Mayai – eggs
- Nyama/samaki nyingine – other meat/fish dishes
- Mboga nyingine – other vegetable dishes



'Long fry and deep fry' foods are very difficult to cook on an electric pressure cooker, as they require precise temperature control. They include:

- Chapati
- Chips
- Mandazi - donuts

Note: all foods that can be cooked on an electric pressure cooker can also be cooked on a rice cooker, but energy savings are likely to be more modest and users may require specific training to show them how to cook foods other than rice.