

STOCKHOLM ENVIRONMENT INSTITUTE
WORKING PAPER NO. 2016-13

The journey to clean cooking: Insights from Kenya and Zambia

Marie Jürisoo and Fiona Lambe

Stockholm Environment Institute – Stockholm Centre

ABSTRACT

A shift to advanced cookstoves can bring significant health and environmental benefits, but only with proper and consistent use. Yet empirical evidence of what drives households to adopt advanced cooking technologies is limited. We use case studies in peri-urban Kiambu County, Kenya, and urban Lusaka, Zambia, to examine what drives households to adopt clean stoves for most or all of their cooking needs, and to stick with those stoves for the long term. We use a service design methodology to build “user journeys” that illustrate the cook’s experience with the technology, from the point of hearing about it, to purchasing it, learning to use it, and making it part of daily routine. We find that the main motivating factors for buying a stove were the prospect of saving money and/or fuel, added convenience, and the aesthetic and aspirational appeal of the stove. However, those factors may not continue to motivate people as they begin to use the stove. At that point, what matters most is whether the stove works well and as expected. Most users also need to use the stove several times before realizing its full value. It is therefore crucial that users get the support they need to learn how to use the stove, so they do not abandon it in frustration. Key interventions that can support stove adoption include hands-on trials before purchase, to ensure that users know what to expect; high-quality user manuals; and building a trusting relationship between users and sales agents that continues after the purchase, to provide longer-term support.

SUMMARY FOR DECISION-MAKERS

African governments are increasingly looking to modernize household energy options for the 700 million people who still rely on traditional biomass fuels such as wood, charcoal and dung for cooking and heating. Advanced cookstoves are now on the market in several African countries, but the level of adoption of those stoves – correct, consistent use over time, as the main or only stove – still falls far short of what is needed to achieve substantial benefits.

We used two case studies, in peri-urban Kiambu County, Kenya, and urban Lusaka, Zambia, to examine what drives households to purchase advanced stoves, adopt them for most or all of their cooking needs, and stick with those stoves for the long term.

In order to understand the factors that motivate or discourage users at each step of the process, and what interventions would further support adoption, we created “user journeys”, an approach to service design that has not yet been widely applied to the advanced cooking sector. A user journey is a tool for mapping users’ experience with a product or service, in sequence, from the first point of interaction, to when they begin to use it, to when they become accustomed to it, to when they move on to something else. Our analysis is informed by the literature on drivers of human behaviour, including “automatic” thinking, social thinking, and “mental models”.

Study structure

We worked closely with cookstove sellers in each location: a microfinance institution that helps women acquire “life enhancing products” in Kiambu County, and two social enterprises that sell advanced stoves and pellets in Lusaka. As part of the project, we shared the results of our research with them, and obtained their feedback. We visited a total of 36 households in the two locations, all of whom had purchased a stove from one of these sellers. The interviewees (mostly women) had been using their stoves for two weeks up to nine months.

All interviewees in Kiambu County and half in Lusaka cooked on the Philips advanced biomass cookstove, using pellet fuel. The other households in Lusaka cooked on one of two natural draft gasifier cookstoves that burn different types of granular fuels: the Vitalite stove and the Peko Pe stove. To learn more about the local context, we also interviewed staff members at the three cookstove companies whose customers were part of the study, as well as energy sector experts at UN Women and in the Swedish foreign service.

Key findings

Adopting an advanced cookstove requires, as a first step, having the opportunity, ability and motivation to purchase and use the stove. Buyers learned about the stoves through demonstrations by the sellers. We found that access to finance or favourable terms was a critical factor. In both locations, the wholesalers acted as financial enablers, actively intervening to make the stoves affordable and allowing buyers to pay in instalments.

The three main motivating factors for purchase were similar in both locations. A majority of users bought the stove to save money and/or fuel. The second most-quoted factor was convenience: the stoves could save time and, because they are less smoky than traditional biomass stoves, could be used indoors. The third key factor was the stoves’ aesthetic appeal and the association of modern technologies with the buyers’ personal goals and aspirations. We also found that people are strongly influenced by their peers when making purchasing decisions, so embedding sales in existing social networks, as two of the sellers do, can encourage people to buy advanced stoves.

While the sellers' strategies are effective at motivating the *purchase* of a stove, however, they may not motivate its ultimate *adoption*, and could even hinder it. Once households begin to use the stoves, the decisive factor is whether they work well and as expected. However, although the vendors give demonstrations, they do not currently invite prospective buyers to actually handle the stoves, so they get the full experience. Customers typically make the decision to buy with limited information, and several interviewees spoke of being surprised when they started using their stoves and discovered that they had limitations or were harder to use than expected.

Recommendations and areas for further research

These issues could be addressed by providing hands-on testing opportunities and making more information available to people before they purchase a stove. In addition, particularly when there is a waiting period between the purchase and delivery of the stove, it is important that sales agents provide active support and information to help users get started. Several interviewees stressed the importance of an easy-to-read, comprehensive user manual, with clear instructions and pictures.

The stoves also need to be designed to be easy to use, convenient and practical in daily operation. Given that the look and feel of the stove is an important factor for many buyers, the stove also needs to be easy to maintain – not only to keep working well, but to keep looking good. When problems arise – and they often do – it is vital that a system is in place to re-motivate users to keep choosing the stove. This is best delivered in the form of personal follow-up by a trusted source, through periodic visits, phone calls, and/or invitations to social cooking gatherings.

Importantly, vendors also need to ensure that purchased fuel, such as pellets, is of consistent quality, affordable and easily accessible. Ideally, fuel should be made available in sizes equivalent to those for charcoal or other widely used fuels, so consumers can easily compare the cost and replicate existing purchasing patterns, but with the new fuel.

For governments that want to strengthen the enabling environment for advanced cookstove uptake, incentives that make advanced biomass stoves and fuels, such as biomass pellets, easily available to clients can play a very important role in lowering the barrier for initial purchase, as well as the formation of a new cooking habit. Of equal importance is a regulatory environment with a vision to favour clean technologies and fuels over less-efficient options. While such a transition requires a careful approach, to ensure no one is left behind, a long-term vision and associated implementation plan are crucial to achieving a household energy transformation.

For international donors interested in this sector, it is important to recognize that new cooking habits take a long time to develop. In order to understand the long-term benefits, ample funds must be put aside for regular, long-term monitoring and evaluation. Earmarked funds for interventions that have a clear strategy for how to support the formation of a new habit, such as follow-up visits by local implementers over several years, also hold promise.

There is little evidence still of how interventions can aid the formation of new cooking habits in low-income countries. This study has begun to fill that gap, but we strongly encourage further user-centred, ethnographic studies focused on these questions, particularly on how to help people develop new cooking habits once they have bought an advanced stove. Studies that follow households over several years would be particularly valuable.