

Engaging communities in alleviating smoke – what the real experts tell you

The fireless cooker is a little-used but valuable technology, comprising an insulated basket into which pre-heated food is left to cook in its own heat. During the recent Practical Action smoke alleviation project, the first fireless cooker demonstration used very smart baskets and expensive foodstuffs. The women felt it was ‘too expensive’ for them. In later demonstrations the project team discussed why the ‘fireless’ cooked the food, and women made their own baskets with local materials, thus empowering them to become the technologists. It provided a way of using the trusty open fire whilst still alleviating smoke and saving fuel. These fireless cookers provided an entry point for other, more expensive, smoke alleviation technologies. Laboratories cannot answer the questions that are closest to hearts and hearths of the cooks as they do not address the user’s lifestyle. The success of the fireless cooker is based on the concept of the ‘need for insulation’ as a technology, not on affordability of a technology. Their success in low-income communities is evidence that women have been able to take up the technologies, but under their own terms and conditions.

The fireless cooker (Figure 1) is a little-used but valuable technology, comprising an insulated basket into which pre-heated food is left to cook in its own heat. It is a hugely under-applied technology in most communities, and yet it really works where it is appropriate. It was one of a series of interventions introduced by Practical Action in Kenya to alleviate smoke. When the project team started to promote the principles of insulation, rather than the technical items - the stoves and smoke hoods, community engagement suddenly became a reality.

When we showed women the baskets (Figure 2) in the area of Keyo (where they have the prolific stoves production centre), we used glitzy, sharply done fireless cookers and portable LPG stoves. We used nicely shredded waste office paper as insulation to make the low-cost fireless cookers. We also used the more expensive foodstuffs such as rice, potatoes and meat (rather than the local staple food) to demonstrate the technology. Little did we know how literally they had absorbed the information as they went away; they had seen in their minds - that they needed to use waste shredded paper, stuffed in nice new basins and buckets, and only with rice, potatoes and meat. They determined whether or not to take it up, based on

various factors. An imaginary monologue in the mind of the woman might have been something like – ‘It is so nicely done, it must be costly. The trimming is neat, but the cloth must have been bought from the shop. I wonder how much that cost’.

We changed direction when we realised this, and instead requested groups to bring their own foods, containers and insulation. Some brought dried grass, sawdust, dried banana fibre and rice husks. They brought sweet potatoes, dried fish and corn on the cob for testing. Our approach to promote the principle of insulation, rather than the item of technology worked to drive thoughts down a different track - down the road of possibility for the woman. This road placed the woman in a new role, that of a woman technologist who could select various insulating materials from her household and manipulate them, using the principles of physics and insulation we described to her, to take control of her kitchen’s indoor air pollution and health issues. This consideration was hugely empowering as it showed women exactly what they could do to play a role in developing some of the solutions that they required, instead of getting loaded with a litany of things that they needed to do correctly.

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Figure 1: Woman demonstrating fireless cooker



This approach immediately engages those women who are excluded from the standard kitchen contexts. Most approaches assume that the woman has a kitchen and is ready to take up new technologies once she is shown what works. Unfortunately it also means that her most reliable tool of trade - the open fire - is always being strongly criticized, and the options presented to her corner her into a decision-making process that she is not socially, economically and culturally ready to take up.

Figure 2: Fireless cooker showing insulated basket



From the three smoke projects that Practical Action has implemented, several women owners of participating kitchens gave explanations for not taking up interventions:

- I have no kitchen (meaning that she has nowhere to put anything).
- I share a kitchen with my mother-in-law (meaning that she has no rights in the kitchen she is using).
- I lost my husband recently and I am not allowed to do that (meaning that her culture forbids her).
- I do not have the money (meaning that her hierarchy of needs does not necessarily include purchases for her kitchen).
- I do not have a job (meaning that she associates any technology with salaried employment, such as teachers and nurses, and not with improved kitchens).
- I do not want to rise above my mother-in-law (meaning that her culture forbids her to appear better than the mother of her husband).

We witnessed responses that had no apparent link, in our 'modern' thinking, with the act of cooking, but which were matters closest to the hearts of these cooks - to have a kitchen, and to be comfortable in the knowledge that her closest community members - mum-in-law, were similarly endowed.

In the light of such contextual matters, the apparently technically-sound technologies found little audience and subscription, and more often than not we found that the old faithful - the open fire - soon found its way into the cooking routine when the project-funded monitoring stopped. Sporadic surprise visits to the kitchens revealed that the open fires are never completely expelled from the home, and were kept within proximity to assuage any lingering doubts that the newcomer could meet all the needs of the woman.

During a recent stove manufacturers outing early in 2009, we visited some kitchens using stoves built on the rocket principles. I was excited to see that the ubiquitous open fire had finally met its match. The kitchen was clean and spotless, no doubt reflecting good mobilisation on the part of the organisers. There was hardly

any smoke in the kitchen, and the monitor on the wall recording carbon monoxide had barely recorded any pollution. The woman was smartly dressed and expertly fielded our questions. Our enthusiasm mounted several notches to realise that here was a case of recorded successes where most of us stove practitioners were still struggling.

Later on, I noted that my colleague was chatting animatedly with the woman in the local dialect before we departed. On the journey back to the main meeting, she revealed to me that she had engaged three stove users (two women in a rural area, one male cook in an institution) in a rather revealing conversation. They all admitted to her that they had hidden the three stones for retrieval after our departure. This has left me wondering how much people use the stoves that we regard as 'improved'. Had this group specifically come to speak to her because they were dissatisfied? Do most people keep the three stones as a 'security'? Do the rocket stoves and three stones share the cooking load...? or do the rocket stoves come out for visitors? Do we need to wait and see if women buy rocket stoves when their current stoves wear out before we can declare a real success? How do we measure real success if courtesy forbids rural women from making their concerns widely known?

On an unscheduled monitoring and evaluation visit to our project area, a transect walk through fifteen homes held some good surprises. The intent of the walk was to gain some overall impression of household responses to an awareness meeting conducted a few days earlier, on how to make and use a zero-cost fireless cooker. All the women were able to pull out fireless cookers of varying shapes, sizes and quality, from diverse corners of the household; most of them from under the beds, some from under the living room seats and the rest from the kitchen. They had all gathered insulative material from their homes, fashioned them into the open plastic water containers they already owned, and proved to themselves that it worked. It was my pleasant task to sample a variety of cooked foods from each household and to give my approval with the requisite sounds of satisfaction and exclamations of delight.

All these ideas direct my thoughts to one consideration - in the same way that we can describe using the fireless cooker through describing how insulation works, is it possible to develop parameters and tests for similar transferable concepts to measure need in the social and economic contexts of a woman's existence?

Laboratory tests for stoves do not answer the questions that are closest to hearts and hearths of the cooks. They do not use parameters drawn from the users' social contexts, and try as they may, they cannot define affordability without attaching dollar signs to the item of purchase. These are terms that will drive away a worryingly large number of women in their kitchens. The success therefore recorded by the uptake of the fireless cooker, cutting across several social groups, is a pointer to the efficacy of the transferable concept of the 'need for insulation' as a technology. Concepts such as these literally find home in most hearts and hearths; they can be quickly tested and proved by the most important stove users and stove technologists of all - the cooks; and their successful uptake within visibly low-income communities is evidence that women have been able to take up the technologies, but under their own terms and conditions.

Profile of the author

Vincent Okello works as an Area Coordinator for Practical Action, co-implementing the USEPA-funded 'Sustaining Cleaner Kitchens' project in Western Kenya. Vincent has considerable experience in household energy matters, gained through his work on alleviating indoor pollution. Vincent's passion is to empower cooks to take charge of their own energy issues.

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