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Parabolic Solar Cookers

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Background

My interest in solar cooking was inspired by Wolfgang Scheffler in 1992, when he visited Kenya. As a college student studying engineering, I acted as his assistant and learnt how to design parabolic cookers. In the process, we built and installed 10 8sqm scheffler dishes and installed them in three school kitchens. In 1992, there was practically no solar cooking activity in the region.

In 2002, I embarked on a 'passive' program to explore the market for solar kitchens, occasionally dropping by nearby schools with brochures, but nothing developed, because although the market for solar cookers and kitchens remains huge, the lack of awareness and experience meant that a more concerted effort was required.

Domestic Scheffler Cookers

A year later it occurred to me to develop a domestic solar cooker based on the scheffler design to test the market and create awareness. We also contacted more schools by mail, and matters improved a little, as we have managed to build and sell over 30 domestic cookers and 4 kitchens.

In the process, we encountered several technological challenges with the scheffler design in its domestic context.

1. Although domestic cookers of the scheffler design considerably reduced the problem of glare, it is more difficult to use, especially among the uninitiated, since it must strictly face north/south to keep its focus. This meant we had in some cases to supply a compass together with the cooker, or travel to the homestead to install it. This requirement led to higher costs to the end-user.
2. Because it is asymmetrical, the dish must be supplied complete in a single piece -breaking it down into segments for assembly by the end-user would require of the user considerable technical knowledge. This aspect poses more challenges in delivery to users far away from Nairobi.

The Way Ahead

Our experiences so far have revealed to us that although there is an enormous latent market for domestic parabolic cookers, the units must be cost effective (in the region of USD100 or less) and more importantly, user friendly to the target group.

Of the units sold so far, we have noticed that the more sophisticated customers preferred the scheffler design, while the rest experienced problems using it.

Consequently, our search for a solution from now on will lead down the path of a parabolic cooker based on the sk14 design, but with foil-on-plastic reflectors.

As a direct consequence of promoting a lower value product, we are seeking ways to ensure access to wider customer base through increased marketing and project activity.