

## 9. CONCLUSION AND RECOMMENDATIONS

A plethora of solar cooker designs have been around from as early as 1700. To date, no commercialisation has taken place and solar cookers are produced on a small, *ad hoc* basis and often heavily subsidised by projects.

For the purpose of the report, commercialisation was taken to mean “to manufacture and sell solar cookers in a profit driven process, in which the income derived (which may or may not include subsidies) is sufficient to make it a worthwhile activity for the entrepreneur”.

The ongoing Solar Cooker field test in South Africa is the closest to what can be described as a case study on commercialisation and is therefore used as the basis for the assessment. The South African Solar Cooker Field Test aimed firstly to establish the social acceptability of solar cookers (phase 1) as well the potential commercialisation of solar cooker technology. Social acceptability was established as solar cookers were reported to be used to cook 35% of meals while users were satisfied with 93% of all solar cooking attempts. Preliminary results indicate that commercialisation would be feasible if solar cookers can be sold between \$25 - \$50 (R200 and R400) to end-users. This would require a production cost equivalent to a 10 000 series production run.

The commercialisation process of solar cookers presents different commercialisation opportunities:

1. Production of a product with commercial value – the production of the cookers by a manufacturer (product)
2. Distribution of solar cookers – physically transporting and distributing cookers to retail outlets (service) as well as related issues such as packaging
3. Retailers selling solar cookers to end-users or customers (service)
4. Marketing and advertising solar cookers as product and as concept (service)
5. Maintenance and repair to maintain the product (service)
6. Training to end-users, retailers and service providers (service)

### Market & Customers

The ideal market for solar cooking is in:

- Areas with a high level solar radiation,
- The dependence on biomass as an energy source for cooking in households, community facilities (schools) and small businesses.
- Low availability of biomass especially fuelwood
- High costs for alternative cooking fuels such as bottled gas

From the experience of the South African Solar Cooker Field Test, only options 1 and 3 can be profitable in the shorter term, provided that demand for solar cookers is adequate

(estimated to be at least in the series production of 1000 cookers per manufacturing batch). Price emerged as the single most important factor and research indicated that the market responds to prices between \$25 - \$50 (R200 and R400)

It is doubtful if individual countries, especially in the case where the target market of biomass users reside, will offer a large enough market on to sustain individual producers of solar cookers. Instead, a regional approach should be adopted where production takes place in one country and solar cookers are exported and assembled in neighbouring countries. This is would be the only way in which a mass production target of 10 000 units per annum could be reached.

In terms of the aims of AREED, described as seeking to create energy companies that use renewable energy technologies to meet the energy needs of the poor, thereby reducing the environmental and health consequences of existing energy use patterns, the support of the commercialisation of solar cooking is appropriate and justified. The objective of the AREED programme is to expand and support the private sector in five select African countries (Botswana, Zambia, Mali, Senegal and Ghana) in the delivery of products and services in the sustainable energy field. With this objective in mind, possibilities to support the production of solar cookers in a single country, with export links to other countries should be investigated.

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