

THE CHALLENGES OF EVERY-DAY SOLAR COOKING IN COMMUNITY

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Sunseed Desert Technology (SDT) is a non-formal education project for the transition toward sustainability in Andalucía, Southern Spain, in the only European desert. With more than 30 years of work, play, research, learning and transformation, the project keeps on inspiring visitors from around the world to live a healthier and more responsible lifestyle.

Sunseed's initial goal (originally Green Deserts) was to attempt to reforest these arid areas and develop livelihoods and technologies appropriate to desert climates. In the 1990s, the development of solar technologies, in particular solar cookers and driers, was a main focus of SDT. At that time, ambitious research projects were set up to develop and spread solar cookers and hayboxes in Africa. Now however, the project is focusing on developing environmental education and sustainability in a more general way. In this context, SDT welcomes and supervises more than 200 Erasmus+ or European Solidarity Corps volunteers and trainees each year in order to raise their awareness of a sustainable lifestyle in the various Sunseed departments and in community life in general.

In recent years, the focus and goals of SDT have evolved, projects with solely a research aim have been set aside in favour of raising awareness among a large number of people. Therefore, concerning the technology of solar cookers in place in SDT, it is currently very basic and could be greatly improved, but some conclusions can be drawn, mistakes and recommendations can be shared with any community or individual that would like to try the solar cooking experience. This constitutes also an opportunity to take stock of the past few years and improve the existing situation at SDT.

Generally speaking, the community consists of 15-35 people. Long term members of the permanent team rarely stay longer than one or two years at SDT. Volunteers, interns and visitors only stay for a few months or weeks. This perpetual rotation of members requires a constant effort to transmit information so that the project can continue. In this way, the first challenge SDT encounters is to train any new member in the use of solar cookers and the tricks of sustainable cooking, even if these people only stay for one week, because everyone participates at least once a week with communal cooking.

The second challenge concerns the technology available. SDT has a parabolic cooker, a solar oven, a solar drier, a haybox and a gas stove. The solar cookers and driers available at SDT are not the latest technology and are not in the best possible condition. All cookers and driers have been handcrafted, with second hand and recycled materials to minimize production costs and materials, but they are not efficient enough to reach high temperatures. The cooker tested in 4/2020 were able to cook a small bread and slow cooked lentils for 20 people.

The existing situation therefore has the following problems:

- The use of solar cookers is not automatic/regular enough. Since the gas cooking option exists, the "easy" or rather "habitual" solution (gas cooking), is often adopted, mainly by people with little experience. The absence of a 'solar kitchen' demotivates the people of using the devices. The positions of the cookers is essential.
- The supervision of new people and the transmission of experiences is not sufficiently developed. The need of 'solar cookers' is profound.
- Meals cooked only with solar energy are rare. The working time for cooking is limited to allow many experiments.

The situation in SDT could be improved through the following recommendations. But these recommendations and strategies can be applied by any community that would like to try the experience and applying them from the beginning might help reaching the solar cooking goal :

- Ensure a more in-depth coaching of beginners, take the time not only to show the instruments and suggest their use, but really to cook with beginners to facilitate learning. Offer a general course once a week or monthly for newcomers.
- Introduce, as soon as the solar situation allows it, full days without gas, the only effective way for everyone to embark on the experience with full creativity
- Position the solar cookers close to the kitchen or create an outdoor kitchen close to the solar cookers to facilitate their use
- Create a cookbook (not a recipe book, there are already some) detailing each food and how it can be optimally cooked in the solar cookers that are currently in use in the community (it is very different from one instrument to another).

Sunseed has great potential for improvement. Resident education, including the thorough induction into solar cooking for short term volunteers, is essential and must be greatly improved. Focus must be given on passing on knowledge, changing habits and sharing the motivation necessary to make the transition to this form of cooking, new for many but not so difficult.

The CONSOLFOOD2020 showed to the team of coordinators that there are some factors that are crucial for solar technology. First, that it should be always available for use in an accessible place and a place that can support the activity of cooking. Secondly, that cooking is culturally relevant and a social place and it should be taken into account so that people actually use it. Finally, the community of solar cookers are lacking groups of people available to test the cookers in everyday use and we can provide that space.