

Report

# Construction of Solar Concentrating Reflectors (Scheffler Reflector)



with

Solar Alternatives and Associated Programs (SAAP)

Pulwari Sharif, Patna

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## **Solar Alternatives and Associated Programs (SAAP)**

Within the international group of people promoting Scheffler Technology all over the world, SAAP is a well known institution. Its founder, Father MM Mathew, is joining since 1996. Due to his effort, SAAP in Pulwari Sharif has developed built up a place where solar technology is produced and improved. There are two important aspects: On one hand, solar installations of good quality are built and installed in places for application. On the other hand, SAAP is a place of research and demonstration. Thus, SAAP is creating employment as well as knowledge within a wide range of solar technologies. In Pulwari Sharif, many different systems are manufactured and can also be seen there in action: Solar Dryers, Solar Hot Water Systems, Solar Power Plant, Solar Steam Systems for Autoclaves in Hospitals and for Cooking, Solar Baking Oven, Direct Cooking with SK 14 and Scheffler Reflectors, Heat Storage in Block Systems and Solar Lanterns.

SAAP is not only an important institution for technology; it also plays an important social role. It creates employment and educational training for socially unprivileged people. The contact with the workers is on a human base, leading to a convenient working atmosphere. It is guiding the employees to self-esteem and empowerment. As they are involved in the development of new technologies, they learn to make decisions and to take responsibility.

## **Construction of 16 sqm and 2.7 sqm Scheffler Reflectors in April/May 2008**

### **Prearrangement of the Project and Infrastructure**

Father MM Mathew asked me as an expert in the construction of Scheffler Reflectors, if I was ready to come to Pulwari to teach them how to build 16 sqm reflectors. This was at the end of February 2008. Even though the time was short until April, the preparations functioned very well. I had sent a list of necessary material and some drawings. At the day of my arrival the work could be started immediately. All material was there and I found the workshop in good order. There was no other work going on, so we could entirely focus on this project. Perfect circumstances for training! The power supply of the workshop from the solar power plant made us even independent from the power cuts and we could work continuously.

### **Production Process**

Due to the great effort of every one of the team, the work progressed very well. As the employees of SAAP were already used to build other models of Scheffler reflectors, there was no problem of understanding important technical details. The work was done really seriously, accuracy is important. It can be seen now in the good quality of the focus.



Picture:

Focus of the new Scheffler Reflector with 16 sqm surface. The reflector is concentrating the sun rays into the focus. The focal temperature is very high (700-900°C), wood catches fire within a few seconds.

As the work on the 16 sqm reflector progressed so nicely, we could easily follow the schedule we had planned in advance. There was even time at the end to make another model of Scheffler reflector, a family cooker of 2.7 sqm surface. At my departure it was almost finished. For the well trained team it was no problem to complete it on its own.

Picture:

Small family cooker



## Results

The project has shown a very good result. The team of SAAP has now the know-how and the capacity to reproduce these two Solar Systems. I consider the project as a big success.

## **Future Perspectives**

SAAP has the infrastructure and the experience for further growth in the future. Its potential is tremendous. The organisation is in good hands and the team is well trained and motivated. Future projects could be the construction of bigger steam systems, entering into the market of solar processed food products with solar tunnel dryers and the construction of solar crematories.

Also the cooperation with universities has to be mentioned. Research on the field of solar technology has to go on, and SAAP in Pulwari Sharif is very appropriate to it. It provides a good infrastructure and most of all, new technologies can be applied and tested as SAAP is a productive enterprise which delivers the systems directly to the people. The purpose of research will be the application, which leads to practical and adapted technologies. This is absolutely important for the enhancement of renewable energies.

Switzerland, 4.6.2008

Adrian Konrad