Solar Cooker Project Alcan in the province of Ningxia / China: Report from the visit from 10 November to 17 November 2007 - *Dieter Seifert*

Summary

Alcan Ningxia donated 50 solar cookers K14 to families in three villages of the autonomous Ningxia Province, as well as the author's time to support the implementation of the project. A further task of the visit was what to check whether CDM projects can be realized in the future for this region.

In the villages a sample demonstration solar cooker was shown to members of the families receiving the new cookers, and the use and application explained. The brochures enclosed with the kit (Manual and Cookery Book) were explained with support through the interpreter Bruce Jing (substituting Elva Wang, who had broken a leg before my arrival).
The Participants were very eager to learn and skilled so did the assembling of the cookers did not pose a problem and it is to be expected that they can produce their cookers themselves.

In the afternoon of the 13th November we visited the NGO "Ningxia Center for Environment and Poverty Alleviation (Ningxia CEPA)", which was charged with the project implementation. It is associated with the NGO "The HOPE of the Poor and Environment Ningxia Yanchi County". Their Vice President Li Fengyang Participated in the workshops in the villages.

Concerning the CDM projects, I spoke with Li Fengyang and on the residual 2 days I discussed the Principles and The Necessary steps with Bruce Jing. We clarified the documentation and discussed the proposals with Mrs. Carol Fu.

The visit showed the conditions for solar cooker use in this region are good. Durable construction of the solar cookers is necessary in case of CDM projects would safeguard the use.

Figure 1: Core team members with village (day 3)
from left:
Mr. Li Fengyang, vice president of HOPE Mrs. Carol Fu, Sustainability Manager Alcan two village-members
two employees of Alcan or HOPE Mr. Burce Jing / Jing Ligu, Alcan village-member

1. expiry of travel
10 November, 18:55, departure Munich, Terminal 2
11 November, 21:15, arrival Yinchang CN, after stops in Beijing and Xi An pick up at the airport and drive to Daba Town; Overnight at hotel guests Alcan Ningxia
November 12 (Day 1), 8 clock departure with wife Carol and Mr. Bruce Fu Jing (interpreter) with driver from 1 village in Doshui Keng, where we were welcomed by Li Fengyang (NGO CEPA) and by local officials.
Solarkocherbau and introduction to the use of about 20 members of the village; Visit of several households
Dinner in Doshuikeng at the invitation of the local authority

November 13 (Day 2), drive to the 2nd village: Ma Huang Shan ("Grey Yellow Mountains") Solarkocherbau and introduction to the use of about 20 members of the village and the neighboring village; Visit of households.
Afternoon sightseeing tour of a project for the settlement of families in a village near New Yanchi County and the visit of the site of Ningxia Center for Environment and Poverty Alleviation (Ningxia CEPA) and The Amity Foundation in Yanchi
Meetings with Li Fengyang and presentations about solar cookers, CDM and UN Millennium Development Goals; Solar cookers as a tool in education and screening of videos about the solar cooker use.
November 14 (Day 3); Trip to a village in Yanchi County, become the test set only two solar cooker at the.
Solarkocherbau and introduction to the use of
about 15 residents. Visit of households with
Biogas plant and water supply (project
Alcan Ningxia).
Return to Daba Town.
November 15, talks with Bruce about
Documentation in Chinese and
Results of the work in the villages
November 16 meeting with Carol and Bruce
the results and the project continues
2. Results from the Solarkocherbau in the villages
In each village, a solar cooker was mounted in community work. I initially was the goal of the individual steps and the necessary handles and referred to the corresponding images in the manual. They were invited to the Baukursen the villagers, who were given a solar cooker and they participated with great interest and skill so that it will probably not be a problem to install the stove. The core team has been very successful, there always prevailed an enthusiastic and cheerful atmosphere and it was explained to all points.

An anecdote that illustrates the diligence of the villagers: We had assembled the reflector and set aside to build the frame and the support ring. Unbeknownst now has someone hardworking tighten all the screws of the reflector and we had to solve for the installation again. (That was not bad, but it probably also illustrates the old adage that well-intentioned far must be good.)
Figures 2 and 3 (above) are included in Solarkocherbau in the first village (12 November 2007)

Figure 4: solar cooker kit in the courtyard of the recipient families after the construction course on the first day.
The father with his child on his arm had participated in the construction course (Figure 5, 2nd from left) and began with the production of solar cookers, when we visited him. Inside the box is the black 10 liter enamel pot
Figure 5 and 6: construction course on day 1 (left; at Da shui keng) and 2 day (in Ma hunag shan) Figure 7 (bottom) construction course in Yanchi County) on day 3
3. Results from the screenings
After the completion of the pattern-cooker we have very clearly shown how the solar cooker is aligned using the shadow on the sun (only the frame, then the reflector inclination)

and how to use the pot and takes (in the shade of the reflector). This has been explained several times repeated and clear.

The rest position of the reflector (buckle up) it was shown that prevents dust deposits and sticking through the dew in the morning. The pictures explained the care of the reflector without abrasive substances. The warming-cooking technology we could tell just from the pictures in the manual.

4. Notes on the acceptance of solar cookers
In all the villages of the solar cooker is obviously appreciated. The acceptance in the villages of the first and second day seems to be particularly large. There almost all cookers have been delivered.
For the families in the village in Yanchi County, the use of two solar cooker is probably not assured as soon as enough biogas available (see Fig. 8 following picture). We saw there also a Chinese solar cooker out of operation (Figure 9). In the season in which the rooms are heated with coal stoves to, you will combine cooking with it. Figure 10 with Carol Fu is taken in the community center of Da shui keng; Figure 11 in the village in Yanchi County.

From the Aceh project you can learn the importance of ongoing support is and how beneficial solar cookers are also available for applications with high energy requirements. The acceptance will be high if mutually supportive villagers in the wise use and the many opportunities and inform. The experience is probably good in the villages, because life in these regions is not easy, so that families depend strongly on mutual aid.
It is helpful to ensure a translation of the main rules to Chinese (s. Item 5).
The climatic conditions in the selected villages are very good for solar cooking. The region has many hours of sunshine. The annual rainfall is 200 mm. Compared to the cities, the air is clear. The typical walled courtyards around the houses that keep out the wind are advantageous (see Fig. 4).

5. For the translation of parts of the documentation supplied
On the remaining 2 days I have subsequently discussed with Bruce and Carol with which texts he should transfer to Chinese (rules and checklist). We have seen the video on the application in detail and I have explained the individual applications. Some applications (preserving, juicing) would require additional facilities and intensive care. However, it should be noted.

6. To prepare secondary solar cooker projects
The Ningxia Center for Environment and Poverty Alleviation (Ningxia CEPA) involved in the project will, inter alia, supported by The Amity Foundation and the Humanities and Development Institute at China Agricultural University would be an appropriate organization for further projects. Mr. Li Fengyang could also provide the necessary information and make the arrangements.
In the complex calculation of CO2 emissions is included and copies of documentation of the NGOs involved, which I received from Li Fengyang.

7. Further possibilities for improving the living conditions in the country
After the World Summit on Sustaiable Development (WSSD) in Johannesburg (2002) I was invited to a meeting with my wife in Neuchâtel / Switzerland, which was organized by Dr.

Wacker (anthropologist, University of Zurich) and the exchange of experience in facilitating of life in mountain areas served. The participating women from Ladakh reported the cultivation of apricot trees under very unfavorable conditions. Bruce, I have successfully searched the internet for further information and we passed it (s. Facility A4).

This has been a significant improvement in the living conditions, in this vast, largely treeless steppes (see pictures). It could cause the spread of customized fruit trees. Model work has done this, the biologist Dr. Günther Kunkel, who has created with his wife for many years gardens on the edge of deserts. He has covered trays with plastic wrap and planted at the lowest point of the tree (s. Annex A5). It is thus avoided the evaporation of water.
Condensing water is supplied to the roots and the tree is protected from damage by other plants. The decisive factors are the first few years until the tree has enough deep roots.
A holistic approach (holistic approach) in poverty reduction is likely to be preferable to a one-sided focus on solar cooking. Also the connection of the solar cooker with the biogas technology, as practiced in the "Smokeless villages" in India, has great advantages. Here, the solar cooker ensures that the biogas plant is not overloaded.
The village was visited on day 3 of Alcan Ningxia provided with a water supply. The picture shows installation work at one of the houses.

There are plenty of ways to improve the living conditions in these regions, where it is often only a lack of knowledge - as in the Solar
Cooking methods. In other techniques, for example, the construction of well-insulated houses made of straw bales, balers are also required. In many cases, the multiple barriers of the designed kits can be overcome, as we showed it with the solar cookers.

8. I would like to take this opportunity to thank all those who made this project for the dissemination of solar cooking in poor villages in the province of Ningxia. My special thanks go to the core team that proved itself throughout the project.

- *Dieter Seifert*