

Report covering the mission „stove Save80“ in refugee camps in eastern Chad

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1. Introduction

Mr. Christian Koch travelled – in cooperation with the Environment-Office UNHCR Abéché/ Chad and ASB, Köln, Germany – to eastern Chad from 26.06.2006 to 02.07.2006.

A month earlier, two containers containing the wood saving stoves 'Save80' had arrived in the eastern part of Chad, about 1300 stoves ordered by ASB and about 5000 stoves ordered by the UNHCR.

Air France 886 took Mr. Koch from Hamburg to N'Djamena carrying luggage which was 115 kg overweight. The luggage contained everything he needed for his mission „Train the Trainers“ of the 'Save80'-Project (tools, weighing scales, food for 200 people, 1500 colour brochures, stove-marking stamps etc).

Intention of the mission:

It was the precise intention of this mission to train many partners of UNHCR in the assembly of the stove, and to demonstrate the special abilities of the stove 'Save80' by giving some on-site cooking demonstrations.



2. Location of the Mission Chad, Eastern Border



3. Precise Specification of the cooking-system



Stove:

Name	: 'Save80-8'
Pot capacity	: 8 litres
Recommended pot content	: 6 litres
Heat output	: 1,5 kW
Material	: stainless steel
Weight	: approx. 4 kg



Pot with lid:

Capacity	: 8 litres
Design	: with 2 handles made of stainless steel
Pot-material	: stainless steel
Lid-material	: stainless steel
Weight	: pot / lid: approx. 1.1 kg



Heat retaining container:

Name	: 'Wonderbox'
Size	: for 8 litre pot of 'Save80'
Material	: special durable material for effective heat retention (no polystyrene)
Weight	: 0.7 kg



Pan with lid:

Capacity	: 3 litres
Design	: with 2 handles made of stainless steel
Pan-material	: stainless steel
Lid-material	: glass, extremely robust
Weight	: pan / lid: approx. 1.2 kg

4. Past deliveries 2005/2006/2007/2008/2009

Number	Item	Order from	Date
			2005
50	stove 'Save80' with tables, chairs, tools	ASB	April 2005
1300	stove 'Save80' with tables, chairs, tools	ASB	August 2005
			2006
5000	stove 'Save80' with tables, chairs, tools	UNHCR	January 2006
5000	stove 'Save80' with tables, chairs, tools	UNHCR	July 2006
5000	stove 'Save80' with tables, chairs, tools	UNHCR	October 2006
			2007
5000	stove 'Save80' with tables, chairs, tools	UNHCR	May 2007
5000	stove 'Save80' with tables, chairs, tools	UNHCR	August 2007
1650	stove 'Save80' with tables, chairs, tools	Care	Sept. 2007
			2008
15000	stove 'Save80' with tables, chairs, tools	UNHCR	Juni 2008
			2009
1850	stove 'Save80' with tables, chairs, tools	Care	January 2009



5. The Camp 'Kounoungo', app. 11,000 Refugees

- Assembling and Cooking -

The Environment-Management Abéché led by Mr. Daniel Roger Tam and the ASB-Crew, led by Mrs. Dr. Irene E. Ndombo organised a demonstration for about 100 refugees. Everything was translated into Arabic language.

A.) Introduction

After everyone had been introduced, there followed a discussion about the experiences so far with the 50 ASB 'Save80's'. A model was displayed which had been in daily use for a year. It showed no ill effects or wear and tear.

The ladies stated that they had experienced no difficulties at all using the 'Save80', and all the stoves which they had been given were in daily use. One lady declared that since she had the 'Save80' stove she had to collect wood only once a week instead of twice, as was previously necessary. She also was able to use much smaller twigs which were much lighter to carry. From this evidence we can presume that she had reduced her wood usage about 1/3.

B.) Assembly

Mr. Koch demonstrated slowly and clearly, how easy it is to assemble a 'Save80' stove. Each sentence was translated and all questions were answered.



C.) Theater play

3 refugee ladies had specially prepared a small play. Nearly every sentence acted out won extra applause.

The outline of the play covered the story of a lady who became ill from the repeated strain of continually searching for wood, and from inhaling too much smoke from her cooking fire. The grand finale came when the doctor recommended that she gets herself a 'Save80' stove.



D.) Cooking

After the play, Mr. Koch weighed out

1 kg of wood.

The amount of wood was seen to be so small that several of the refugees thought it was a joke and laughed. Mr. Koch then lit 2 'Save80' stoves with the wood and began to cook. In the first stove he cooked 7.5 kg of rice (5 litre of water), in the second stove 7 kg of red bean stew with paprika was prepared. (6 litres of water)

To the astonishment of the crowd of refugees Mr. Koch still had half of the wood left over and was further able to cook 7,5 kg of maize porridge (6 litres water) and 6 kg of vegetable stew (5 litres of water)

Despite the large number of refugees - approx. 100 plus the managers and crew there was food for everyone. The total amount of food prepared was

28 kg.

6. Original Porridge in Guéréda

An informative meeting with the UNHCR-Manager of Guéréda and representatives of the UNHCR Partner-Organisations CARE, PAM, IMC, SECADEV, CNAR and ASB took place in Guéréda.

A cooking test was also organised with the support of the manager of WFP.

A colleague of WFP cooked the original porridge using a few pencil-thick twigs. It was clear to see that the porridge stirring took little time (5 - 10 minutes). During that time the cooking fire needed very little or no extra wood.

It is therefore obvious that the cooking of the porridge in a heat insulated box does not make sense.



7. Camp 'Mile' (approx. 13,000 refugees)

A visit to Mile-Camp was undertaken in order to gather information regarding the cooking habits and the field kitchen for the refugees.

A field kitchen for children was visited. A lady demonstrated 2 large cooking pots.

In this application it was obvious that a 'Save80' stove is much too small to be of use. Mr. Koch promised to research the possibility of developing a larger 'Save80' stove, with a capacity of 30litres, if possible to be ready in 2006.



8. World record in Abéché

A: Assembly

On Friday 30.06.2006, in the shade of a large shelter, an educational meeting of about 30 people representing various aid agencies and partners of UNHCR took place.

Aim of the education:

- Training in the assembly of the 'Save80'
- Cooking demonstration, to show the possibilities offered by the 'Save80'.

Mr. Koch showed in detail and clearly each step in the assembly of a 'Save80' stove. The group was split up into small units of 2-3 people so that everyone, at their own table, was able to assemble his or her own 'Save80' stove.

Everyone learned quickly to assemble the stoves and on Saturday everyone present was awarded a certificate, showing that they had competently completed their training.

After the cooking demonstration had taken place, each group assembled 2-3 further 'Save80' stoves without guidance being required.



B: 1 kg of wood

A quantity of wood was collected, such as was found around the shelter.

Before the cooking started the group of men and women were shown the 1 kg of wood made up of very small pieces and twigs.

The women said that this amount of wood was not enough for a proper cooking fire

- It might just be enough to warm some water for tea
- It possibly could be used to make a small amount of soup.
- Can you make porridge for 5 people with that amount of firewood?

No way!



C: Cooking

Mr. Koch lit 2 of the stoves which had been assembled by the group.

In order to allow Mr. Koch time for further explanations about the workings of the 'Save80', staff from ASB took over the running of the stove. The fire must be observed and from time to time a little more wood should be added to the stove.

Firstly Mr. Koch prepared 7.5 kg of rice and 7 kg of red-bean stew with paprika, next came 7.5 kg of maize porridge and then 6 kg of vegetable sauce.

All together that made

a 28 kg meal

All together the quantity of food prepared was so large that the 30 people present could not eat it all, and additional people were invited to partake of the feast.

To the surprise of the participants of the course the two burning stoves made no smoke.

It was a great day.







9. How to cook with next to nothing

In a normal family situation a traditional 3 stone fire would need 1000 g - 1500 g of wood in order to cook 6 - 8 litres of food. In windy conditions the amount of wood needed will rise to over 2000 g.

It has often been proved that the 'Save80' can achieve the same cooking volume with only 250 g of wood. Many tests have been carried out to prove this. The tests started with temperatures of 20°C heating up to 100°C.

Using a very simple trick this amount of wood can be halved to circa 130g. You can see all over Chad black plastic water canisters being used. Assuming an ambient temperature of 35°C it is possible to reach about 65°C by placing the canister in the open sunshine.

(You can find many Sahara-tourists who proudly document how they were able to fry eggs on the bonnets of their cars).

The water has only to be heated up from 65 °C to 100°C with the 'Save80'.



10. Discussion about refugee camp 'Bahai'

The Camp 'Oure Cassoni' situated North of Bahai has the biggest fuel problem in Chad.

The camp lies in an arid desert area and holds about 30,000 refugees.

With managers from UNHCR and ASB, photographs of the region were examined.

2 years ago it was necessary to distribute petroleum stoves to the people in Oure Cassoni because the local wood supply which was reachable on foot or by vehicle was used up too quickly.

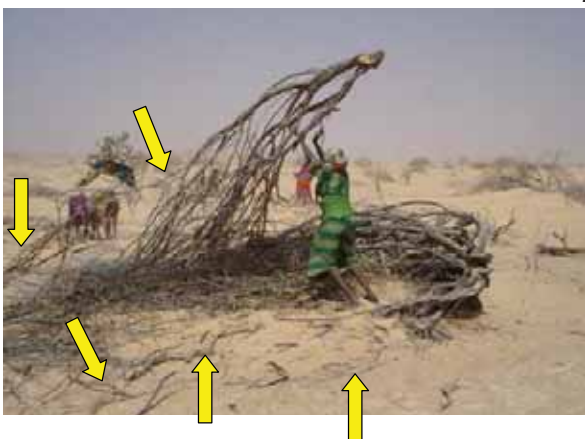
The petroleum stoves are very cheap, but the fuel for them is expensive (circa 3 Euro per person per month).

At this point it should be mentioned that small and tiny twigs were not collected, but as being considered useless were left on the ground, because the refugees didn't know the 'Save80'.

It can therefore happen that the leaders of camps will declare that they have no more wood fuel, despite the fact that with the 'Save80' stove principle, they would still have wood supply close by for 3 - 4 years.



2004



Perhaps the Environment-Office in Abéche can organise the field testing of 20 or 30 'Save80' stoves in Bahai.

Initially, the refugees might be sceptical and reject the 'Save80' stoves as they believe that paraffin supplies in the future will be stopped.

Perhaps success could be achieved by introducing 'Save80' stoves to the newly arrived refugees.

End

