

Second Rufford Small Grant: **26613-2**

## **Progress Report III**

(Public Demonstration on Making of the Efficient Cookstove)

Project Title:

**Introduction of Efficient Biomass Cook Stove as a Strategy to Reducing Household Pressure on Natural Forests of Guinea Savanna Zone of Nigeria**



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### **PREAMBLE**

This is a Second Rufford Grant with the aim of introducing efficient and simple biomass cookstove to rural communities in Guinea Savanna Zone of Nigeria with the aim of reducing indoor air pollution, burden of firewood collections by households and ultimately pressures on natural forests.

The first stage of this Second Rufford Grant has introduced the process of selection and making of prototype of the efficient cookstove. The second stage focused on creating awareness of the project in the selected communities. This third stage is on the public demonstration on the process of making the efficient cookstove in the local communities.

### **PRE-DEMONSTRATION VISITS AND PREPARATION BY THE COMMUNITIES**

*Sensitization and approval:* Before embarking on the demonstration at the local communities, a sensitization visit was conducted to the communities under the project. Since cordial relationships have been established with the communities, the visits were mainly to inform of the project continuation and next activities to be carried out. On getting to a community, the Village Head, of which relationship has been established, was usually contacted. Also, efforts were made to locate women and youths leaders that the project team has established relationships. Visits were also made to necessary households to further inform of the project intention.

*Fixing of the demonstration date:* At each of the community, a date was jointly agreed upon with the project team to come for implementation of the public demonstration. A date was fixed in such a way that two communities did not clash with each other. The date is also fixed to the time that the women and youth will be around to watch the demonstration.

*Period of the day for the demonstration:* From information provided by the communities, evening was considered as the most convenience time to carry out the demonstration. Evening was preferred because the local people would have returned home from their daily activities. Also, this will be the ideal time of the day to show outdoor video to the public.

*Joint preparation of local materials by the villagers:* Each of the village was requested to jointly prepare and make available some materials needed for making the cookstoves during the demonstration. These materials are those that are available around the communities and could be sourced locally for free. Specifically, the materials include clay, sand, water, bucket, hoe and shovel. Also, the presence of women, youths and children were requested.

## **PREPARATION BY THE PROJECT TEAM BEFORE THE DEMONSTRATION DAY**

After visits to the communities with fixing of dates for the demonstrations, the project team made some preparations before the day. For appropriate implementation of the demonstration, the project team made the following preparations:

***Making of extra wooden moulds:*** additional wooden moulds which are to be used in making bricks for the efficient cookstoves were produced. It is planned that the mould used during the demonstration at a village would be donated to the village and kept in the house of the village head. This mould is to ease production of the cookstove and can be borrowed by households in making their bricks. In case a household needs a personal mould, the donated one could be taken to the carpenter to use as a guide in replicating production of the mould.

***Making of bricks:*** some bricks were produced by the project team ahead of the demonstration. These bricks were to be taken to the villages as sample in making the efficient cookstove. It normally takes a day or two for the bricks to dry. So, the bricks that would be made during the demonstration will not get properly dry to make samples of cookstove same day. Hence, it is planned that the dry bricks produced by the project team would be taken to the village and used in making the sample cookstoves during the demonstration.

***Poster Production:*** a poster containing pictures on the steps in making the efficient cookstove was produced ahead of the demonstration. Copies of the poster were to be given to the villagers for free. The intention is that the poster is to guide the people in making of the efficient cookstoves during and after of the demonstration.

## **DEMONSTRATION DAY**

On the day fixed for the demonstration for a community, the project team arrived as scheduled. The demonstration entails the following:

***Gathering of the People at a Venue:*** In most cases, venue of the demonstration was fixed for the front of the house of the village heads. The project team allows the village head to inform the villagers of our arrival. While the people were gathering, the project team set up the venue for the demonstration and inspects the materials requested for the demonstration.

***Sharing of the Poster:*** Before the demonstration commences, copies of the poster were given to the village head to distribute to the people. As instructed, sharing of the posters should be done in such a way that at least one poster must reach a household. The first use of the poster is that the people must hold the poster and use the pictures to follow the process of making the cookstove during the demonstration.

***Measurement and Mixing of clay, sand and water:*** the first stage of the demonstration is the measurement of the clay and sand. The measurements depend on the quality of the clay and sand

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gathered by the people. It must be measured to make a good blend of mixture that will produce a strong bricks for making the cookstove. Practical sessions on how to measure the clay and sand was then carried out. The sand and clay was properly mixed with hoe or shovel. Water is then gradually added to form a good mixture.

***Making of bricks:*** the mixture of clay, sand and water was poured into the mould to produce bricks. The project team first demonstrated to the local people, after which some of the youths were asked to produce some of the bricks. The bricks were made in places with direct sunlight, and leave to dry for about two days.

***Making of sample efficient cookstoves:*** samples of the efficient cookstoves were made during the demonstration with the use of dry bricks brought by the project team. The bricks produced by the villagers could not be used because it will take almost two days to dry. The demonstration is in group and the people were made to watch how the bricks were assembled to make the cookstoves. The people were requested to watch their posters and follow the steps as the bricks were assembled, then plastered with mixed clay and water. Making of the cookstove was explained in local language of the people. The demonstration was very interactive with questions and responses. The people were asked to go to their homes with the poster and use in making their cookstoves.

***Follow-up to the Demonstration:*** the people were instructed to go and replicate production of the cookstoves in their respective homes. The project team fixed a day that they will return to inspect all the cookstoves made with further instructions. The mould used for making of bricks during the demonstration was given to the village head for the use of the community.

### **REFRESHMENT AND APPRECIATION TO THE COMMUNITY**

The heads of the three villages and the entire villagers were appreciated for participating in the practical demonstration. Everyone was given refreshments in appreciation of their presence and time. Each of the three villages were given the wooden brick moulds for the use of everyone. Also, the village heads were given non-monetary gifts for their supports and assistances.

### **CONCLUSION**

The public demonstrations on making of the efficient cookstove were successfully held in the three communities under this project. The people were enthusiastic in learning how to make the efficient cookstove and fully participated during the demonstrations. All categories of the village people, including the women, youth and men, participated in the demonstration. The Village Heads gave their full support and cooperation for successful hosting of the public demonstrations. Rufford Small Grant was acknowledged in the posters produced for the steps in making of the cookstove.

## Project Pictures

**The Making of the SAVE SAHARA COOKSTOVE**

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**01 Start with Mixture:** Mix mud soil, top soil and sandy soil. Then add water and mix properly.

**02 Preparing location of Cookstove:** Prepare and level the floor where the Sahara Cookstove will be located.

**03 Foundation of the Cookstove:** Place 9 bricks in position. Remove 2 bricks and dig 2 holes half a brick deep (no need to include these bricks on concrete floor).

**04 First Level:** require 9 bricks with 2 brick half buried. You do not need to include the buried bricks on concrete floor.

**05 Apply mixture of the mud and other soils between and on top of the first layer bricks, then place bricks for the next level.**

**06 Second Level:** require 6 bricks and 2 half bricks placed on the spread mixture.

**07 Place bricks centrally over the fire holes, then position other bricks.**

**08 Third Level:** require 6 bricks, 3 half bricks and 2 quarter bricks in front outskorners as shown.

**09 Plastering of the Cookstove:** Plaster top and inside walls of the arranged bricks with the mixture of mud using your hands.

**10 Making of Pot Rests:** Form 4 pot rests by hand on each of the two fire holes in the cookstove making them slightly overlapping the edges of the fire hole.

**11 Finishing of the cookstove:** Finish off the pot rests and other parts of the cookstove by smoothing with hands.

**12 Leave to Dry:** Leave the complete stove to fully dry within 2-3 days before using. Then place 2 bricks outside the fire holes to keep ash in the fire hole and sticks can rest on it.

**13 Usage of the Finished Cookstove:** The Save Sahara Cookstove uses small pieces of firewood, cooks quickly and stays hot for longer.

**14 Maintenance:** Regularly Re-plaster mud onto the outer surface and the pot rests every 2 - 4 weeks.

Courtesy: Ripple Africa ([www.trippleafrica.org](http://www.trippleafrica.org))

Poster containing steps in making the Efficient Cookstove



**Sharing of poster containing steps in making of the efficient cookstove**



**Villagers holding the posters containing steps for easy making of the cookstoves**



**Public demonstration on measuring of clay, sand and water for making of bricks**



**Public demonstration on mixing of clay, sand and water**



**Public demonstration on making of the bricks. A community member is in the picture making the bricks during the demonstration**



**Assembling of the dried bricks brought by the project team to demonstrate making of the efficient cookstove**



Efficient cookstove made during the demonstration beside the three-stone cookstove