JINSI YA KUPIKA MAHARAGWE NA NISHATI KIDOGO by thoralf kautzsch

COOK BEANS WITH A MINUMUM OF FIRE WOOD

Cooking beans on a wood fire is usually time consuming and requires a lot of energy. But there are a few things you can do to ensure that the beans cook without a lot of work and energy.

Some principles:

1. Soak the beans in water overnight - at least 8 hours. Then pour away the water and wash the beans.

2. Most of the energy is used to boil the water. Only use as much water as absolutely necessary. It is enough if the soaked beans in the pot are covered by two centimeters of water.

3. Only use dry wood for cooking!!! The wood should not be longer than the width of the base of the pot. This is to ensure that the flame heats the pot and not the surrounding area.

4. One kg of dry firewood has approximately the heating energy of 4kWh. To boil 10 litres of water from a starting temperature of 20°C, you need about 1kWh.

If you need more than one kilogram (1kg) of firewood to boil 10 litres of water or to cook 3 kg of beans, you're doing something wrong!

Experiment:

Step 1: Construction of a stove

I realized the principles of energy efficient cooking by building a small stove that fits my largest pot very well. The stove consists of a round metal sheet slightly larger than the pot and expanded clay insulation. There is an opening for the burner at the bottom. I can pull out the burner to add new wood. The burner is essentially made from an old tin can. The stove cost 10 euros (27,000 TZS). It took a day to design it and another day to build it.



Here are a few pictures from the construction and heating of the stove

Step 2: Soaking beans overnight, rinsing and cooking

After soaking the beans overnight, I put them in the pot and put on the fire. As my largest pot is only 7 liters, I only use 2.1 kg of beans, or 70 percent compared to the amount used at Tuleeni Home. I had previously cut and chopped 500 grams of firewood. It took me 10 minutes to saw and chop the wood. After the water boiled, I kept the fire going for another hour and the beans were cooked and soft.



The experiment was about minimizing wood consumption. You could also use a little more wood and speed up the cooking process. In the way shown here, I needed 450 grams of wood until the 2.1 kg of beans were ready. Another 90 grams of wood was used to fry the vegetables in oil and finish cooking everything in the pot.



Meals are ready – the first three portions are consumed – but now I have beans (kidney beans and some from Tuleeni, too) for a few weeks...

Some important remarks:

- 1) I needed about 0.25 kilograms of firewood per kilogram of beans. At the Tuleeni Home on January 25th it was about 10kg of firewood per kilogram of beans - about 40 times as much!!!!
- 2) The self-built stove is not the key to the low consumption. Even more important is the use of dry firewood that is small enough so that the flame is really only under the pot.
- 3) Furthermore, I needed about 3 liters of water to cook 2.1 kg of soaked beans. I wonder why Tuleeni Home used 23 liters for 3kg of beans. Most of the energy used for cooking is used to heat the water.

Now we need your ideas. Would you like to discuss together what actions you would like to take to drastically reduce the consumption of firewood?

I am looking forward to your ideas and actions.