

## Sawdust Stove in Mamfe and Besongabang

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By accident, I came to know about sawdust stove. This stove is made locally in Mamfe and fed with sawdust.

### Cost:

The cost of the stove varies with the quality. They are usually only made upon demand. The simplest one made by zinc into the shape of a tin like the one below cost 2000-3000 franc (US\$4-6). This stove is estimated not to last more than 3 years



Some stoves are made with the inner part of tires like the one below. They cost 8000 franc (US\$17) and are more durable than the cheap ones. They are estimated to last more than 5 years.



The pot uses sawdust and very few and small firewood. Sawdust can be got from mills in 500 franc (US\$1) or 200 franc (US\$.42) pack from saw mills in town. In the village, although one can get saw dust easily in the farms where people saw their timbers into planks, nobody is actually selling them. But now a new saw mill has been opened, some villagers see opportunities to buy from them instead.

**Operation:**

The top part of the stove is open and there is a hole at the side of the pot. To prepare it, one first place a bottle or stick in the middle of the pot, then the whole body stove will be filled up with sawdust. One must make sure to pound the sawdust to compact it. If the sawdust is not compact enough, it might collapse in the process of cooking. The pounding process can take up to 20 minutes to ensure it is really well done.

After the sawdust is compacted, the bottle is removed from the bottom. One then places a small piece of firewood through the side hole. Then one pours a little kerosene into the hole on top and light it with matches. Then fire will be burning at the top hole.

If the saw dust is compacted well and does not collapse, it will be sufficient to cook 2 or 3 pots. When the stove is no more needed, the fire will be put off using small amount of water and the stove can be resumed its use later. When the saw dust collapses or finishes, one must empty the whole stove and redo the process of compacting the saw dust.



Figure 1: after sawdust is compacted and bottle is removed from the middle



Figure 2: placing two small firewood sticks into the side hole



Figure 3: pouring kerosene into the top hole before lighting the stove with matches



Figure 4: Placing a pot stand before placing pots on top

#### Comparison of Sawdust Stoves and Firewood based on locals' perception

Sawdust	Firewood
Low cost	Free
Sawdust cost money and has to be bought from town	Firewood available in farmland for free
Less smoke	More smoke
Faster cooking	Slower cooking
Takes time and skills to prepare (molding the sawdust)	No new skills required as people are used to firewood stove
Consumes little firewood	Consumes much firewood
Batch feeding of sawdust, cooking process can be disrupted if sawdust finishes burning and collapse	Flexible feeding of firewood, fire can be retained as long as one wishes

#### Advantages and problems:

The stove is cheap, locally made and uses very little firewood. It still produces smoke, but less than firewood stove according to users.



Figure 5: smoke while frying



Figure 6: it can emit much smoke when fire is not burning properly. At this point, the cook has to fan the stove to assist the burning and reduce the smoke



### **Popularity**

Surprisingly the stove is not as popular, although most people know what it is and have seen one before. There are several reasons: sawdust being not as widely available as firewood, people do not know how to use it, some are not aware that the stoves are available locally even though they have seen or used one elsewhere, etc. The most important is that people do not see the need for changing their current habits of using firewood. (Huck's comments: people pay for sawdust but generally can collect their own wood. Looks like the sawdust stove requires more preparation, cooking time can't be easily extended, stove costs something while 3 stone fire is free.) Takor's opinion is that people are not aware of the new invention or that people are just used to old ways of cooking using firewood and will not change easily without sensitization.



Figure 7: Woman cooking on a three-stone fire and sawdust pot simultaneously

This woman who demonstrated the saw dust stove to me is selling food. The reason she bought a sawdust stove is so that she can cook on several fire simultaneously so that she can prepare food for sale in time. She also has a gas stove and sometimes uses them simultaneously as well. She has a kitchen for fireplace but she said that when the weather is warm (temperature is high), she will prefer to make her fireplace outdoor. (\*This coincides with my experience that kitchens (even those using gas stoves like Takor's) are really warm. Big windows alone do not seem to help much if the building materials are not suitable. Takor's kitchen is made of concrete and this woman's kitchen wall seems to be covered with zinc. See picture below.) Some people also use sawdust stove during rainy season when they cannot get hold of dry firewood.

Now that a new sawmill has been opened in the village, this might or might not help to increase the popularity of sawdust stoves.

