



**FAY FENGO
NAFAA-SIYATA**
Making Waste Useful

Worksheet number 4



Make Charcoal Briquettes from Organic Waste

You can recycle organic waste into valuable charcoal using simple tools

Organic waste, which comes from plants or animals, makes up at least 40% of all waste in The Gambia. This worksheet shows you how to make briquettes for burning in stoves from organic waste.

To make briquettes, you need organic waste that is rich in carbon. Woody, dry, brown organic waste is rich in carbon, like dry leaves, twigs, straw, groundnut shells, coconut shells and sawdust.

To make charcoal briquettes you need to **carbonise** the material. If you are using sawdust you can just mix it with a binder to make



You can find out how to make the charcoal drum and briquette mould at: <http://d-lab.mit.edu/resources>

You will need:

- Overalls, gloves, masks, covered shoes/boots
- 1 carbonizing barrel – an oil drum with 9 holes in the bottom and a square holes in the top with a lid.
- Stick/rod to turn the material
- Water to sprinkle on char
- Mortar and pestle or another way to crush the charcoal
- Gum/starch from cassava or similar
- Firewood and a container to warm and mix your gum with water
- A place to mix your material with the gum
- Briquette press, wood block and hammer
- A place to dry your briquettes

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1. Sort

Choose material that is brown and dry – try different things that you find nearby.

Remove all materials that you do not want in your briquette.

2. Burn

Skip this step if you are using sawdust. Put the material in the charcoal drum raised on 3 stones (old block is fine) and light a fire underneath. You will produce plenty of smoke. Turn the material to make sure it all burns. When the smoke reduces and flames come, wait a few minutes then put the lid on the drum. Remove the stones underneath. Leave for around 20 minutes then check. The material inside should be like small pieces of charcoal (we call it char). If it is not yet burnt, then leave for longer. Do not leave it for too long or it will turn to ash. You will need to practice a few times to get it right!



3. Cool

Skip this step if you are using sawdust. Remove the char and sprinkle with water to stop it burning. Crush it to powder using the mortar and pestle or you can crush in your hands or put inside a sack and hit with a stick.



4. Mix

Mix the char with the gum – you should use enough to hold the mixture together, but not too much that your briquettes fall apart.



5. Mould

Put the material inside the briquette mould, hit 2 or 3 times and remove. Put in a dry place. Charcoal takes 1-2 days to dry in the dry season, sawdust 2-3 days.



6. Market

You can sell one bag of 10 charcoal briquettes for D10 and you can make around 1000 briquettes in one day.

Make some and give them to people for free so they understand that they burn hotter and for longer than normal charcoal!

