EEP
ENERGY AND ENVIRONMENT PARTNERSHIP / SOUTHERN AND EAST AFRICA

BRIQUETTE PRODUCTION PROCESS

Carbonised

Materials and Tools

RAW MATERIALS	BINDER	EQUIPMENT
Charcoal dust	Maize starch	Spade
Waste papers	Cassava(manioc)Starch	Bucket
Coconut wastes	Wheat Starch	Weighing Balance
Cashew nut husks	sweet potatoes	Mould Press
Sawdust and wood shavings	Algae plants	Sieve
Coffee husks	Sugarcane molasses	Drum Kiln
Maize cobs	Gum Arabica	Drying Rack
Rice husks	Pulped waste papers	Briquette press
Peanut husk		
Wattle bark residues		
Macadamia nut shells		
Banana Leaves		

1 Raw Materials

Collect biomass materials such as coconut waste, maize cobs and wood shavings. Dry them until moisture is reduced to 10%

2 Carbonization

Carbonization of biomass material

3 Size reduction

Sort to remove uncarbonized material and crush to powder

4 Seiving

Sieve the dried charcoal dust on to an empty bucket

5 Weighing

Weigh the seived fine powder

6 Mixing Stage

Add together the seived charcoal and binder material. Add water and stir evenly to make an even paste. (This applies even when using soil as a binder)

Binder preparation
(Gelatinization)
10 parts water to 1 part starch. Raise the temperature of the mixture to near boiling

7a Extrution

Pour the paste in to the briquette press and mould/compress into shape

7b Extrution

Pour the paste in to the briquetting machine, and compress into shape. Cut the briquettes to size

8a Drying

Dry the briquettes on a rack for 4-5 days under the sun to dry. Pack the ready briquettes for sale.

8b Drying

Dry the briquettes on a rack for 4-5 days under the sun to dry. Pack the ready briquettes for sale.

9 Packaging

Package in an environmental friendly way

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PRACTICAL ACTION
Technology challenging poverty

EEP Programme in Southern and East Africa is jointly funded by the Ministry of Foreign Affairs of Finland (lead donor), The Austrian Development Agency (ADA) and the UK's Department for International Development (DFID)

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ENERGY AND ENVIRONMENT PARTNERSHIP / SOUTHERN AND EAST AFRICA

BRIQUETTE PRODUCTION PROCESS
Non Carbonised

Materials and Tools

1 Raw Materials

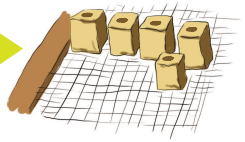
a) i) Collect sawdust; seive to sort and remove wood chips and shavings
ii) Soak the sorted sawdust in water for 4-5 days

b) i) Collect waste paper
ii) Sort to remove non-organic material such as plastics/polythene
iii) Shred the waste paper to small pieces
iv) Soak the shredded waste paper in water and pulp this to make gruel

c) Weighing
Weigh the fermented sawdust or the pulped paper gruel

3 Extrution
Pour the mixture in to the briquettes press and screw to mould evenly shaped briquettes

5 Drying
Dry the briquettes on a rack for 4-5 days under the sun to dry. Pack the ready briquettes for sale



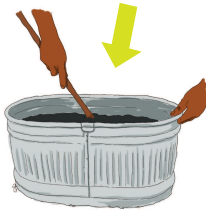
6 Packaging
Package in an environmental friendly way

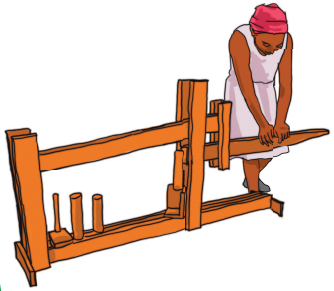
4 Drying
Dry the briquettes on a rack for 4-5 days under the sun to dry. Pack the ready briquettes for sale.

Fermented sawdust or pulped paper gruel

Binder preparation
(Gelatinization)
10 parts water to 1 part starch. Raise the temperature of the mixture to near boiling

2 Mixing stage
Add the fermented sawdust and binder material together. Stir to make an even paste





3 Extrution
Pour the mixture in to the briquetting machine and compress to produce evenly shaped briquettes

RAW MATERIALS	BINDER	EQUIPMENT
Waste papers	Algae plants	Spade
Coconut wastes	Sugarcane molasses	Bucket
Cashew nut husks	Pulped waste papers	Weighing Balance
Sawdust and wood shavings		Mould Press
Coffee husks		Sieve
Maize cobs		Drying Rack
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