

Multimarmite Stove

Burkina Faso



Type

Portable metal household stove for one pot, can accommodate a range of pots of different diameters (up to three sizes).

Name

“Multimarmite” in Burkina Faso

Fuel

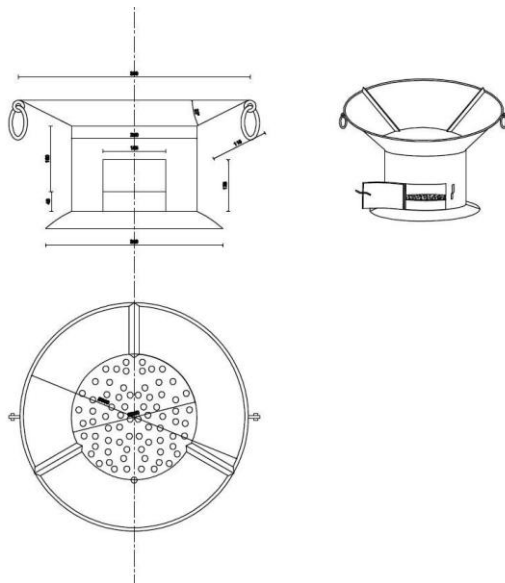
Fuelwood and charcoal

Country of origin / Dissemination area

Burkina Faso

Developed in 1986 by the “Institut Voltaïque d’Energie”, currently called “Institut de Recherche en Sciences Appliquées et Technologies” (IRSAT).

Dissemination within the project FAFASO¹ started in 2006. By December 2010, over 102,000 stoves had been produced and sold country-wide.



Users

Rural and urban households

General description

Portable metal stove for one pot:

- Slanted skirt with raised pot-rests customized to fit a range of three pot sizes.
- Fuel support:
Lower grate (for fuelwood) is fixed. It is raised above the stove-bottom to enable under-current of air to enhance combustion of wood.
Upper grate (for charcoal use) is removable and needs to be removed, if wood fuel is used.
- No door to close firewood-inlet, so no option for air regulation when used with charcoal.

Stove dimensions

This stove is scalable to suit almost all ranges of pot sizes (from no. 2 to no. 30).

Dimensions for the most common household stoves (pot no. 2 - 4):

- Diameter 33 cm
- Height 27 cm



Estimated lifespan

At least two years

¹ Foyers Améliorés au Burkina Faso

Materials used

At least 1 mm thick metal sheet either from scrap or new material

Performance

Water Boiling Tests indicate potential fuel savings of 43% as compared to a three-stone-fire, while Controlled Cooking Tests indicate fuel savings of 29% compared to a three-stone-fire.



Production / Supply

The stove is produced by local tinsmiths.

Standardized templates are used to outline the different stove parts on a metal sheet; then they are cut out along the indicated lines.

The use of templates allows the producers to maintain standard sizes, to fulfil quality standards and to increase the number of stoves produced per day. The cut pieces are assembled without electricity

Tinsmiths can produce about three improved stoves per day.

An intense quality control system supported by the research centre and associations of artisans ensures the quality of the stove and the customers' satisfaction.

Price (2011)

Six stove sizes are sold on the market.

The price varies between 3.80 € (2,000 FCFA) for stoves used with pot no. 2 - 4 and 38.00 € (25,000 FCFA) for the biggest ones (pot no. 20 – 30).

Depending on the availability and the costs of raw materials, the price differs in the different regions of the country.

Strengths and weaknesses

Positive

- + For both firewood and charcoal
- + The same stove suits a range of pot-sizes; thus women need only one stove for cooking with different pot sizes
- + Portable
- + Decentralised production
- + Availability of local raw material (e.g. scrap like fridge doors, etc.)
- + Standardized templates allow quality production
- + Well recognised branding
- + Enhances local production and income generation
- + High degree of users' satisfaction

Negative

- Size-flexibility reduces efficiency of heat-transfer compared to other improved stoves with a custom-fit skirt for one pot-size



Available documents

- Tests des foyers Roundés (IRSAT, 2009): https://energypedia.info/index.php/File:Tests_des_performance_des_foyersROUMDE_IRSAT.pdf

Source of pictures: GIZ Burkina Faso
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