

Fixed One-Pot Rocket Mud Stove

Benin, Kenya, Uganda



Type

Fixed rocket mud stove with one pot-hole for households and institutional use.

Name

“Foyer rocket fixe en banco” in Benin

“Shielded fire” in Uganda

“One-pot rocket mud stove” in Kenya

Fuel

Fuelwood

Country of origin / Dissemination area

Rocket stove design guidelines were developed by Aprovecho Research Center (ARC) in 1982.

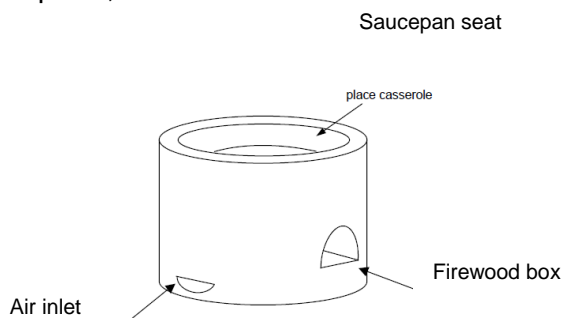
Uganda launched the stove in 2004 through GIZ-PREEEP¹.

The dissemination in Benin started in 2006 with support from ProCGRN².

By December 2010, over 72,000 one-pot rocket mud stoves had been produced and sold (Uganda: 58,900; Benin: 13,500).

Users

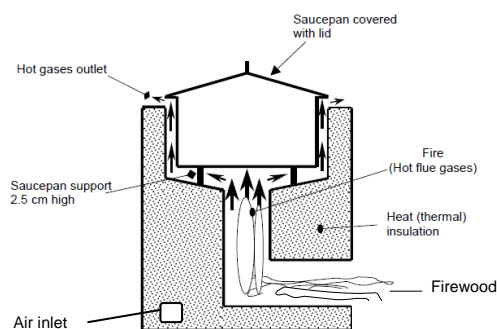
Mainly used by rural households and in institutional settings such as schools, hospitals, etc.



General description

Fixed mud stove with:

- Pot-hole for one pot
- Single fuel feed and combustion chamber
- Built according to rocket stove guidelines with a tall combustion chamber; the pot sits within the stove body
- Side air inlet to create undercurrent of air (instead of metal shelf)



Materials used

Built of an insulating clay mixture comprising mud and organic material such as chopped grass, saw dust or chopped dry banana leaves.

Performance

The stove can save over 50% of firewood compared to a three-stone fire.

Production / Supply

The stove is produced by trained local artisans. The stove builders live in local villages and are directly paid by the users.

Users are generally allowed to bring raw materials in order to reduce the price of the stove. In case of smaller damages, users themselves can repair the stove.

¹ Promotion of Renewable Energy & Energy Efficiency Programme (PREEEP)

² Conservation and Management of Natural Resources Programme (ProCGRN)

Case Study Uganda

The stove is often used to complement a Two-Pot Rocket Lorena stove, as a stand-alone stove for cooking small portions or in combination with the Two-Pots Lorena for bigger events.

Stove dimensions

Dimensions for an average sized pot (5 - 10 litres)

- Height: 60 cm
- Diameter: 50 cm

Estimated lifespan

At least two years

Daily production capacity

An artisan can build one improved stove per day (about 24 stoves a month)

Price 2011

Average price is 2.00 - 6.00 USD (5,000 - 15,000 Uganda Shillings).

However, in Northern Uganda, where the local people are still settling back home after spending over 20 years in Internally Displaced Camps (IDPs), stoves are being sold at a lower price of 0.20 - 0.40 USD (500 - 1,000 Uganda Shillings).



Using the shielded fire stove

Source of pictures: GIZ Uganda and Benin
Last update: April 2011

Strengths and weaknesses

Positive

- + Efficient and cheap stove
- + Decentralised production
- + Use of local materials
- + Fits to different pot sizes
- + Income generation in the villages

Negative

- As a fixed stove it needs a place that is sheltered from the rain
- Regular maintenance needed
- The dissemination system involves trained local stove builders and needs a quality monitoring system that is maintained for quite a long time
- Lack of quality in the production process generates an unintentional change in the dimensions of the stove, which reduces its efficiency



Available documents

- Ministry of Energy and mineral Development (Uganda), Energy Advisory Project: Construction manual for household rocket stoves, June 2008
<http://www.energyandminerals.go.ug/pdf/gtz/HOUSEHOLD%20Stoves%20Construction%20Manual%20August%202008.pdf>
- Fiche technique foyer rocket fixe en banco (GIZ Benin):
https://energypedia.info/index.php/File:Fiche_Technique_rocket_fixe_en_banco.pdf

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