

Efficient Fish-Frying Firewood Stove (SAFISTO)



Why to choose this solution?

SAFISTO is an efficient firewood stove designed for fish-frying purposes. Fish is a product that can spoil very fast, particularly in the tropical heat along the coastal districts. Fish-frying in Tanzania is one of the industries known to consume a significant volume of wood. Firewood is one of the main sources of energy for fish processing. The type of stoves used is an open fire which consumes a lot of firewood. SAFISTO stove has thermal efficiency ranging from 50% to 60% as opposed to a three-stone fireplace with thermal efficiency ranging from 10% to 15%. SAFISTO stove reduces firewood consumption by 50% and also has the ability to take smoke out from the kitchen. Furthermore, SAFISTO reduces users' risk of burns.

Savings per day or production:

SAFISTO reduces firewood consumption by 50% per day compared to three-stone fire places.

Cost in money and in own time to construct:

SAFISTO can be constructed in different sizes. It is built using burnt bricks, sand, lime, cement, and wire mesh. Local masons charge labour between 60,000 TSh to 75,000 TShs (USD 26-32) per stove. Materials for constructing a SAFISTO that is 100 centimeters wide costs about 250,000 TSh (USD 108). Construction takes about two to three days.

Lifetime:

SAFISTO can last for more than three years if properly used and maintained.

Maintenance needed:

The chimney chamber needs to be cleaned regularly to avoid tar clogging and requires occasional repair in case of cracks in the stove.

Resources needed in use:

The stove use firewood.

Problems and limits:

Requires dry firewood chopped into medium size pieces. Performance of the stove might be affected if dimensions are not observed and followed during construction.

Where and how can you get it or make it?

The stove is available in Tanzania, designed and promoted by TaTEDO.

Skills needed to produce, install, maintenance, use:

Construction of SAFISTO stove requires skilled masons. Major repair and maintenance may also require skilled masons; otherwise, the trained operator may clean the chimney and do minor maintenance of the stove.

How to use it:

To be added.

How to maintain it:

To be added.

Climate effect (if any):

Contributes to reducing GHG emissions from wood sources. Reduces the amount of firewood required for fish-frying, leading to a reduced number of trees harvested for firewood demands.

Where it is used and how many users are there?

Used in coast region of Tanzania, especially in Kilwa Masoko, Somanga and Mtwara where fish business is among the main economic activities. SeTa Kaanga is used by more than 1,000 fish processors.

Why is it successful?

SAFISTO achieves efficient firewood combustion and maximizes heat transfer to the fish-frying pan.

If you can make it, a short description, typical problems, materials needed:

N/A

How to make it (if possible):**How is it delivered and by whom?**

Main actors include TaTEDO, local trained artisans, fish processors and beach management units (BMUs). BMUs are involved in mobilizing the fish processors within their localities and in monitoring the performance of the stoves. TaTEDO is responsible for awareness-raising, stove demonstrations, and capacity-building of ToTs on construction and maintenance of the stove. Whenever new inquiries are received, the trained ToTs become responsible for providing the service.

Successful financial model

Grant and subsidies through the project were used to disseminate the SAFISTO during its introduction to the local communities.

What policies and strategies helped the success?

The role of improved cookstoves is realised in the national Energy policy of 2015, Tanzania SE4ALL action agenda, draft Biomass Energy Strategy (BEST), and the draft Energy Efficiency Strategy of 2018. Also, there has been support from various development partners.

More info:

<https://www.tatedo.or.tz/>

Sources:

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