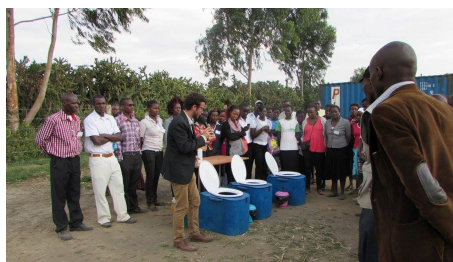


Blue Box Toilet Waste Sanivation Briquettes



Why to choose this solution?

Sanivation collects human waste from special toilets and turns it into sustainable fuel, which improves sanitation and reduces the environmental impact of burning wood. It creates fuel briquettes for cook stoves, which comes from its toilet service in Naivasha (Kenya). The briquettes are cheaper, cleaner, and longer-lasting than charcoal.

Savings per day or production:

Sanivation briquettes burn 1 hour 45 minutes longer than charcoal, thus they are more economical to use. They reduce the demand for charcoal and wood for cooking and heating, as well as help to protect the environment.

Cost in money and in own time to construct:

Installation of the blue box is free, but the users pay a basic monthly service fee of KES 200 (USD 2) for the human waste to be collected twice a week. Installation takes one day.

Lifetime:

Not specified.

Maintenance needed:

The blue box condition is inspected during the collection of human wastes twice a week.

Resources needed in use:

The blue box, the service, and efficient cookstoves to cook with the fuel produced.

Problems and limits:

The initial monthly household service fee was set at KSh 600 (USD 6) which proved very expensive for the users. It was then reduced to the present KSh 200, which made a big difference in uptake. The initial plan was to use flower waste from nearby flower farms, in addition to charcoal dust. However, the cost of carbonizing flower waste was found to be too high, so the focus shifted to charcoal dust, which is readily available. At times, production may be affected by fluctuations in grid electricity from Kenya Power.

Where and how can you get it or make it?

Available in Naivasha and Nakuru counties, Kenya. Beneficiaries of the Blue Box are identified by Sanivation Sales Agents.

Skills needed to produce, install, maintenance, use:

Skills needed to install and to maintain the Blue Box include engineering, energy, and construction skills. There are written instructions on how to use the Blue Box.

How to use it:

To be added.

How to maintain it:

To be added.

Climate effect (if any):

People who replace charcoal with briquettes reduce their emissions by not burning charcoal. The briquettes save about 50% of emissions, which is about 2 tons CO₂-equivalent/year if 2.5 kg wood/day are saved. There is a high rate of tree loss in the area, and every ton of charcoal sold saves about 88 trees.

Where it is used and how many users are there?

They are used in Nakuru, Nairobi and Narok counties. More than 1,500 tonnes of briquettes have been sold so far to factories, schools, restaurants and households. The plant has capacity to serve 10,000 people and produce 350 tons of fuel per month.

Why is it successful?

It is affordable. It sustainably replaces some amounts of other charcoal, saving trees and removing some part of the contribution of fuelwood to climate change. It conveniently offers reliable, user-focused, vertically integrated sanitation services. Another critical benefit of the Sanivation service, according to studies conducted by Sanivation, is reduction of the number of people suffering from diseases related to improper human-waste disposal.

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

Materials needed include Blue box, human wastes, charcoal dust, centrifugal briquetting machine, and drying trays. The expertise of trained technicians is also necessary.

How to make it (if possible):

<https://youtu.be/bPwwUaKJVfY>

How is it delivered and by whom?

Beneficiaries of the Blue Box are identified by Sanivation Sales Agents and although they are installed for free, the home owner signs an agreement with Sanivation to abide with the written instructions on how to use the Blue Box, and to pay a basic monthly service fee of KSh 200 (USD 2) for the human waste to be collected twice a week. The location of all Blue Boxes is established using GPS coordinates, and moving a Blue Box from one house to another is allowed with prior consultation.

Successful financial model

Support for development, training.

What policies and strategies helped the success?

Successful partnerships with the Nakuru County government as well as with Naivasha Water and Sanitation Company (VAIVAWASCO). The Centers for Disease Control and Prevention (CDC) Kenya and the CDC Waterborne Disease Prevention Branch are collaborating with Sanivation through a CDC Innovation Fund

Award to help scale-up their waste collection and treatment activities beyond household subscribers.

More info:

Sanivation <http://www.sanivation.com>

Sources:

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