

Retained Heat Cooker Saves Fuel and Energy

Background

In Bangladesh, around 24 million households in rural areas and 5.8 million households in urban areas use biomass fuels for household cooking (BBS). Extreme dependence on biomass is causing deforestation, and the existing inefficient cooking practice has detrimental health hazards. According to WHO, this is causing 46,000 deaths every year, mostly among women and children.

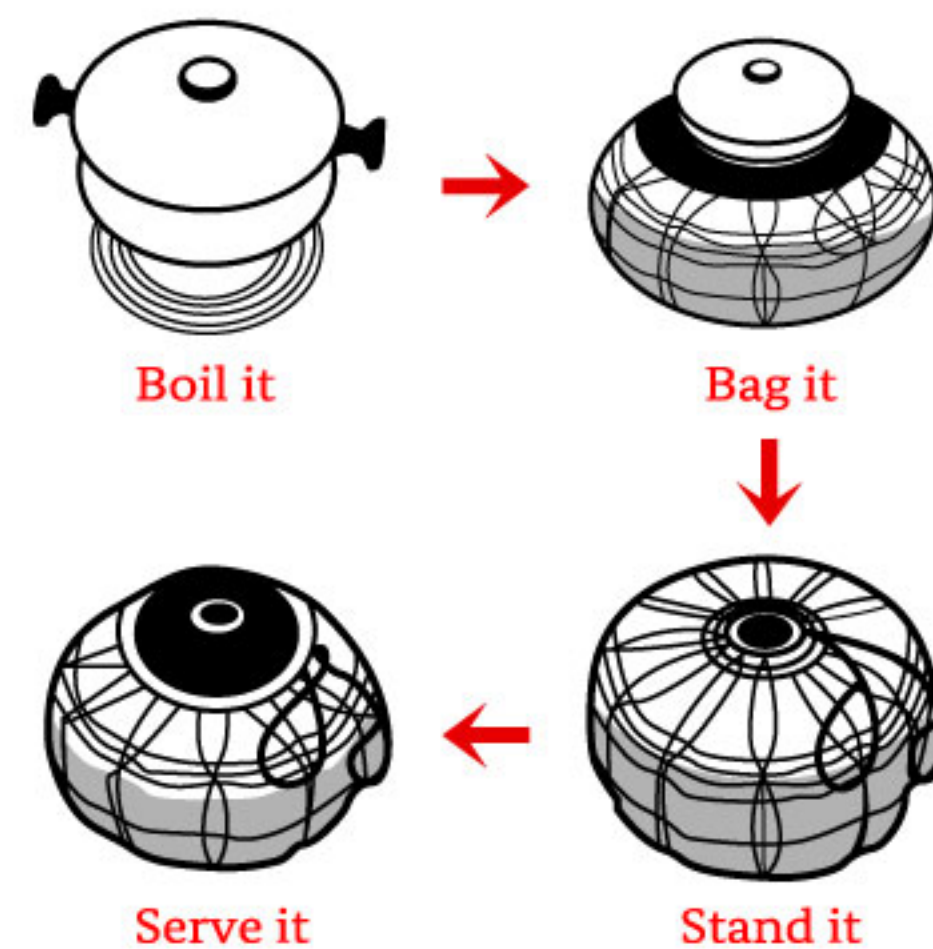
The Government of Bangladesh and many development agencies have introduced various cooking solutions which are cleaner and safer, emphasising on efficient fuel consumption and performance. One such solution is the Retained Heat Cooker (RHC), an alternative cooking solution promoted by the Renewable Energy and Energy Efficiency Programme (REEEP). The programme is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), in cooperation with the Sustainable and Renewable Energy Development Authority (SREDA), of the Ministry of Power, Energy and Mineral Resources (MPEMR), Government of Bangladesh.

Our Approach

Through REEEP, GIZ has reviewed the existing technology of traditional stoves and developed this simple but effective solution based completely on locally available materials. Since 2014, GIZ has been engaged in understanding and evaluating the potential of the Retained Heat Cookers for energy efficient cooking.

What is the Retained Heat Cooker (RHC)?

RHC is a standalone, non-electric insulated bag designed to reduce the amount of fuel required to cook food. Instead of being placed on a stove for the entire duration, food is heated to a boiling temperature on the stove and then transferred to the bag. It uses the principle of thermal insulation to continue the cooking process without requiring any additional heat.



Cooking process in the Retained Heat Cooker

This cooker is an emerging solution towards increasing energy efficiency in the cooking process. The product can be easily used both in traditional rural or modern kitchens. Except for fried items, diverse dishes can be cooked using this cooker, including traditional Bangladeshi dishes containing rice, potatoes, chicken, vegetables, and beef - among others. RHC can be used not only as a cooker, but also as a hot-pot, icebox and yogurt maker.



Left: Using the Retained Heat Cooker saves both fuel and cooking time

Right: A local Retained Heat Cooker entrepreneur on her way to visit potential customers

Benefits of the Retained Heat Cooker

- Simple and easy cooking process
- Saves up to 50% of the required cooking energy
- Keeps food hot or cold for upto 8 hours
- Portable and safe
- Reduces stove time by two-thirds
- Cost effective

The Cooking Process

Step 1: Heat the pot of food on the stove until it reaches the boiling stage and let it simmer for a few minutes

Step 2: Place the pot inside the RHC

Step 3: Keep the pot inside the RHC until cooking is finished

Step 4: Bring out the pot from the RHC and serve

Cooking Time

Food	Cooking time in stove (Minutes)	Boiled food in RHC (Minutes)	Total cooking time (Minutes)
Rice	10-12	20-25	30
Potatoes	10-12	20-25	30
Chicken	10-15	20-25	30-35
Vegetables	10-12	20-25	30
Lentil	10-12	20-25	30
Polao	10-12	20-25	30-35

Planned Activities

GIZ-REEEP has partnered with several organisations to disseminate 32000 RHCs thus far. RHCs are being distributed in 40 districts, with potential to expand in other regions also. Six manufacturing organisations have been provided capacity development support. Stove users have been trained on the usage of RHC to further promote the product. GIZ aims to introduce RHC to a total of 60,000 households by 2018. To ensure an effective supply chain, at least ten manufacturers and distributors will be developed.

As the product can be locally manufactured, it can create employment opportunities for many men and women in both production and distribution stages, and thus contribute towards reducing poverty. By reducing deforestation, significant contribution will be made towards ensuring environmental protection. An improvement in the living conditions of the user households through reduction in fuel expenses and health hazards from harmful biomass pollution is also an impact of the Retained Heat Cookers.

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Registered offices Bonn and Eschborn, Germany

Renewable Energy and Energy Efficiency Programme
PO Box 6091, Gulshan 1
Dhaka 1212, Bangladesh
T + 880 2 5506 8746-52
F + 880 2 5506 8753
giz-bangladesh@giz.de
www.giz.de/bangladesh

Author

ANM Zobayer

Layout

Ananya Rubayat

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Addresses of the
BMZ offices

BMZ Bonn
Dahlmannstraße 4
53113 Bonn, Germany
T +49 (0) 228 99 535-0
F +49 (0) 228 99 535-3500

BMZ Berlin
Stresemannstraße 94
10963 Berlin, Germany
T +49 (0) 30 18 535-0
F +49 (0) 30 18 535-2501

poststelle@bmz.bund.de
www.bmz.de