



Providing Access to Modern Cooking Energy

Potential and challenges: Woodfuel Cookstoves

Dr. Marlis Kees

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Programme for Poverty-oriented Basic Energy Services (HERA)

November 2014



**Local – national
decentralised production**

**National (semi-industrial)
production**

**Industrial production –
(imports for LDCs)**

Inbuilt brick, clay stoves

**Portable metal and clay
stoves**

**Portable stoves for solid
woodfuels, liquid/green
fuels**



50% Reduction in wood use, 70% reduction in toxic emissions

Rocket Stove Peru / Uganda

Kenya Jikoo

Rocket Stove Malawi

Envirofit Stoves



Rocket Stove Kenya



Roumde stove Burkina



Protos BSH



Manifold improved cookstoves

- Satisfy various cooking needs and habits
- Used with different fuels
- Adress different household budgets/customer groups





GIZ has long-term experience in Cooking Energy

- First projects started 1980
- Since 2009: about **10 Mio people** have **gained access to modern cooking energy with the support of** Energising Development Programme (**EnDev 2**) as reported by the projects, co-financed by the Netherlands, Germany, Norway, United Kingdom, Switzerland and Australia
- Currently, activities in more than **20 countries** with focus on Africa
- **Supporting local production**
- Concentrating on highly efficient but low cost **biomass and biogas stoves**
- Stoves save at least 40 % of biomass fuel



Foto, GIZ; M. Blunck; Bangladesch



Cooking Technologies promoted by GIZ



Inkawasi stove Peru



Roudé Stove Burkina Faso



MIRT Stove Ethiopia



Eclair Charcoal Stove Benin



Mud Rocket Stove Uganda



Nrick Rocket Stove Kenya



Different price ranges offered – e.g. Malawi products

Household size



1 USD



8 USD



20 USD

Restaurant / canteen size



50 USD

80 USD



50-100 USD



200 - 300USD



Lesson No 1

Woodfuel stoves are still a necessary and also viable solution, especially for rural and low income HH population *

Stove needs to

- be convenient and adopted to local cooking habits
- offer improvements and be still affordable
- be easy to maintain and to replace.

What has changed since the 80's?

- Concept of technology introduction: from subsidized stoves or self-help production to commercial market introduction
- The product: from “odd looking” or “exotic” models to modern looking stoves with efficient combustion chambers

*This does not mean that Biogas, Plantoil, Ethanol, Solar, LPG, Kerosene or Electric Cookers are not an option, but often they are not at reach for rural and poorer households.



Lesson No 2

Changing cooking habits requires time and efforts

- Workload, smoke, decreasing resources are not seen as primary problems in low income households. **Constant and long-term awareness raising** is needed.
- Cooking habits vary from region to region and require different products: there is no one-fits-all stove. **Research and technology adaptation** is necessary.
- Clean cooking is a function of four elements:
 - clean burning fuel
 - clean burning stove
 - user behavior

Capacity development on all is required.



Foto; GIZ; D. Otremba; Nepal



Lesson No 3

Development of local markets is a viable and sustainable solution*

- Creation of **local employment**
- Increase in **local know-how and knowledge**
- Lowering import and foreign currency dependency
- Possibility of **adaptation to local cooking habits**,
- Near-by access to repair and quality control of stoves



Foto; GIZ; D. Otremba; Nepal

Stove Production in Nepal

* This does not oppose the market introduction of imported products



Lesson No 4

A global programme permits efficient scaling-up

- Cross country experience exchange allows for **accelerated concept improvements**
- Creation of competition between countries. Allocation of funds to those countries with favorable potential.
- High **cost effectiveness**:
Program Costs for providing access to improved cookstoves : **<5 Euro / Person**

(EnDEV result after 5 years: 3 Mio cookstoves in 12 countries+)



Stoves in Burkina Faso and Kenya



Challenges ahead:

Big numbers (GACC 100 Mio homes by 2020; SE4All and SDG: 650 Mio homes by 2030) - new players

- New and different players - Joint efforts
- international and national stove standards
- Lab testing and field testing
- Transparent monitoring





Thank you for your attention

giz | HERA
Poverty-oriented
basic energy services

On behalf of
 Federal Ministry
for Economic Cooperation
and Development

Deutsche Gesellschaft für Internationale
Zusammenarbeit GmbH (GIZ) GmbH

HERA – Poverty-oriented Basic Energy Services

marlis.kees@giz.de

www.giz.de/hera



Rocket Stove in Malawi