



Potential and challenges: Woodfuel Cookstoves

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# Cook Stoves (biomass fuel only)



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











Rocket Stove Peru / Uganda



Roumde stove Burkina

**Protos BSH** 



# Manifold improved cookstoves

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













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# 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

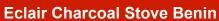


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## **Cooking Technologies promoted by GIZ**















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### Different price ranges offered – e.g. Malawi products

**Household size** 



1 USD



20

**20 USD** 

#### Restaurant / canteen size





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

<sup>\*</sup>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.





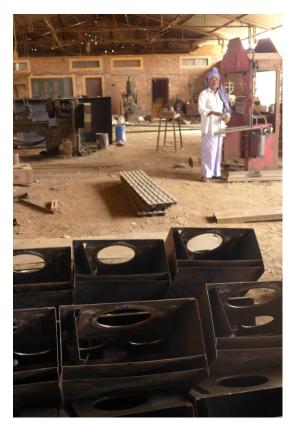
Foto; GIZ; D. Otremba; Nepal



### 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

<sup>\*</sup> This does not oppose the market introduction of importet 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</p>

(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





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