

Improved devices and  
lessons for  
dissemination

Experiences from  
Karnataka

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# Global vs local issues in cookstoves:

CO<sub>2</sub> emission, so climate change

Deforestation & its implications on soil,  
biodiversity

CO and particulates so health impacts  
Fuel & time saving  
Ease of cooking,

Easy entrepreneurship  
An aware customer, Ready markets,  
Supply chains Financing

# The household cookstove programme of TIDE

Primary focus on short term local issues because if local needs (convenience, speed, safety health, affordability) are not completely addressed, global issues will not be addressed.

- So persistence with its decade and a half old design of a cookstove that meets user requirements
- Grass root and women's entrepreneurship as a dissemination strategy
- Low maintenance and reduced rejection built into the stove design, training & dissemination process

# The stove and its attributes



- Smokeless, uses chimney to remove smoke from the kitchen
- 38% fuel saving compared to conventional stoves
- Two pan
- Fuel: local agro residues, firewood as harvested
- Cost – Rs 850 or Rs 400 + local materials (bricks, soil etc)

# Method of stove building



# Women stove builders of TIDE

- Launched in 2002 as a market based approach involving only women; to improve communication
- The approach is a combination of awareness creation, training in soft skills, stove construction & micro enterprise development
- Women market their stove building skills and seek orders from district level officials, planters etc. TIDE seeks donations for smokeless villages and transfers orders to trained women
- Forest department, Govt. of Karnataka, adopts the programme of Sarala stove construction by women stove builders; supports TIDE for training

- Women stove builders construct 25,000 smokeless stoves in Karnataka, India
- Third party surveys: More than 80% of the stoves are working; significantly higher than stoves constructed by men
- An illiterate woman stove builder wins the women exemplar award of CII



Women initiated into stove building

- Are self reliant
- Invest in the education of their children and children of other family members
- Are eating better and so are physically stronger; do more work than most women
- Are role models; motivate other women
- They see stove building as a path out of poverty





## What worked

The communication strategy - motivating women into stove building

Mid course correction process well understood and easily enabled.

Complete migration to improved cookstoves by users

Successful women entrepreneurs learn to manage their success. Families learn to accept successful women

## What did not work

Complete livelihood migration to stove building not possible.

Trying to combine stove building with agri. labour is unsuccessful & creates conflicts

Social barriers of marketing in their own community inhibit women from profitably engaging in sales

Men ignored in the women only stove building approach has some repercussions on women

Fuel efficient stoves that meet the cooking need of street vendors and small caterers do not fit into any testing procedures

But these stoves eliminate smoke, save fuel, conform to user expectations and are selling briskly





# Partnerships necessary for an unsubsidized market driven approach



Consumer  
finance  
partners



- Each PYRO stove in its lifetime saves 2-3 hectares of forests, 230 million Indians derive their sustenance from forests
- Significant climate change mitigation impact: Each stove reduces CO2 emission by 5-15 tons CO2/ year
- 10,000 stoves in operation will contribute INR 180 million (USD 3 million) to the local economy every year. This, if invested in health, education, sanitation etc. can then skill the next generation and bring them out of poverty
- At the current levels of smoke inhalation the productive life of the cook is over at 45. So cleaner, safer stoves contribute to the well being of families

# Cookstoves: Not just about emissions

The organic, women led and implemented process addresses women's cooking needs without any adverse health impacts



There is an enormous economic stimulus in shifting to a fuel efficient PYRO wood burning stove

**Cookstove construction is an instrument of social and economic transformation**



Reaching 400 million Indians with clean cooking solutions is a complex interplay between global issues and local needs.

Often policy makers and entrepreneurs try to address both but not quite completely

**A market driven strategy requires complete focus on local needs and pain points.**



## Lessons: Policy & guidelines

MNRE guidelines measure fuel efficiency, CO and SPM as a function of power of the stove

WHO guidelines focus on health and measure emission release CO and PM2.5 per minute or as a function of time of exposure to emissions

IWA measures CO, PM, air quality, fuel use and safety and has tiers for performance

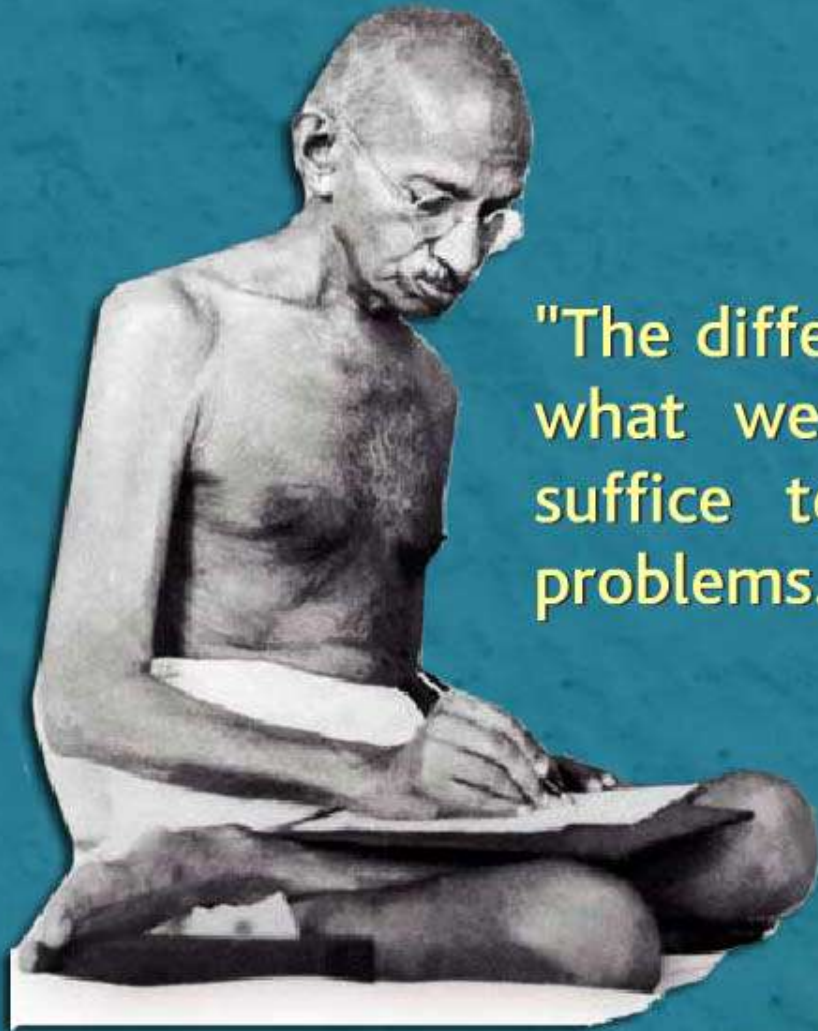
Important to recognise that standards and their link with subsidy or funding define the cookstove design and dissemination strategy.

Currently cookstoves are

- Factory produced, light weight, not quite low cost
- Use costly high quality prepared fuels
- Often equipped with fans and batteries that require high maintenance

Compulsions of subsidy linked to standards means that stove designers prefer to meet qualifying standards and guidelines rather than user's cooking needs. Markets and willingness to buy get compromised.





"The difference between what we do and what we are capable of doing would suffice to solve most of the world's problems."

*M.K. Gandhi*

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