

Alleviation of Energy Poverty for Empowerment & Environmental Protection



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Mwangaza Light - who we are

- ▶ A social enterprise concerned with last mile distribution of clean energy solutions in order to alleviate energy poverty
- ▶ Build last mile distribution into infrastructure of churches and FBOs
- ▶ HQ in Nairobi, sales leads in 10 counties, commission agents in 25+ counties
- ▶ Developed 'Green Churches' initiative - aims at growing environmental stewardship amongst churches to enhance climate change mitigation
- ▶ Partner to Green Anglicans Movement; MD is member of the Provincial Steering Committee and Focal Point for Thematic Area on clean energy adoption in ACK

- ▶ What others say about us '*Mwangaza Light is doing an excellent job reaching an unserved market with high customer satisfaction*'
(conclusion of an independent customer survey, December 2021)

Why focus on alleviation of energy poverty?

Energy poverty is an obstacle to socio-economic development

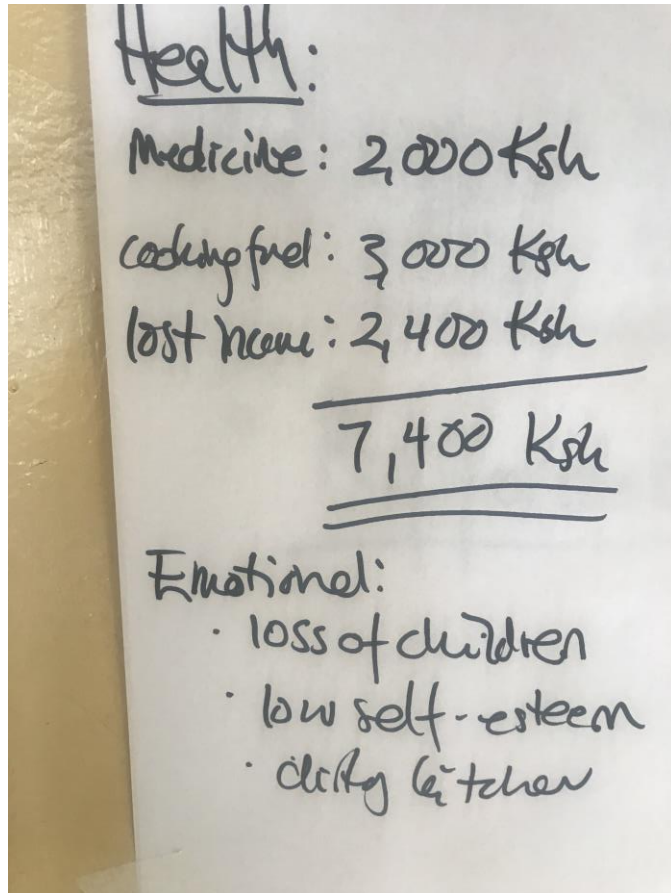
- ▶ **Loss of lives** - indoor air pollution is the main 'killer' of women and infants in Africa; smoke is the highest avoidable risk factor for child pneumonia
- ▶ **High cost in cooking fuel** due to poor cookstoves
- ▶ **High cost in medical bills** due to smoke and firewood collection
- ▶ **Low productivity** due to long hours spend on firewood collection, cooking time
- ▶ **Gender inequality** - women spend much time on cooking-related activities, which increase dependency on the husband; girls do domestic work > homework, which makes them less able to succeed in education and employment compared to boys
- ▶ **Deforestation** - due to use of logs and big branches

Current cooking technology: Open fireplaces & local improved cookstoves



Costing the problems of current cookstoves

- Ex from training in Elgeyo-Marakwet, November 2021



Financial cost:

Medicine: \$20 (only cooking related)

\$15: 1 Panadol per HH member per day

\$5: cough medication (excl. chest examinations)

Cooking fuel/firewood: \$30 - \$1 per day x 30 days

Lost income due to firewood collection: \$24 KES

1-2 days per week where woman could be productive

Emotional cost:

Loss of children due to indoor air pollution,

Low self-esteem from firewood collection, dirty cooking

Dirty kitchen is uncomfortable, low value by husband

Solution: Energy efficient cookstoves

Benefits



50% saving on cooking fuel
70% reduced smoke & no
brown carbon emission

Time saving
Saving trees

Solution: Energy efficient cookstoves

Tier 4 cookstoves



Benefits

- ▶ 50% less cooking fuel
- ▶ 70% less smoke & no brown carbon emission
- ▶ Time saving on cooking
- ▶ Time saving on firewood collection
- ▶ Save trees

Affordability: Financing Models

Partnership with SACCO/MFIs:

Sell at wholesale price & paid within 30 days

Mwangaza Light act as the financing entity:

Payroll check-off mechanism

Registered groups (county, church)

ML acts as financing entity

Credit plan

Cookstoves

- ▶ 33% downpayment & give out stove
- ▶ 33%: first installment after 30 days
- ▶ 34%: second installment after 60 days
- ▶ 60 days credit for cookstove at \$30-50
- ▶ No interest

Solar energy solutions: \$25-1,200

- 2 months - 23 months
- 1.3% interest per month

Cost of financing

Credit control unit:

Sales team cost for receivables

Staff/office cost

Operation cost/field visits

Defaulters: About 30%

Required to reduce defaulters:

IT software

More and more efficient Change Agents