

UNIVERSITY OF TWENTE.

ENERGY TO POWER MICRO ENTERPRISES IN THE INFORMAL FOOD SECTOR



CONSORTIUM LED BY: UNIVERSITY OF TWENTE, THE NETHERLANDS

PARTNERS: UNIVERSITY OF CAPE TOWN FOR RESEARCH IN SOUTH AFRICA

ENDA ENERGIE FOR RESEARCH IN SENEGAL

MARGE FOR RESEARCH IN RWANDA



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CSTM -



PROJECT DESCRIPTION

- Part of the ENERGIA Gender and Energy Research Programme funded by DFID.
- Our consortium is one of five and focuses on Productive Uses of Energy in the Informal Food Sector – micro enterprises.
- Countries: Rwanda, Senegal and South Africa –
- Informal sector a ‘hot’ topic in developing countries but difficulties with addressing the IFS.
- Important topic for energy access and use, gender, policy and regulation, economic development, employment
- In most developing countries, it a sector with strong involvement of women







Elec.



gas

METHODOLOGY

- Semi-structured questionnaire (surveys) – 180 enterprises
- In-depth interviews – 15 enterprises
- Focus group discussions
- Document analysis (for literature review and to inform about stakeholders)
- Key informants / Stakeholders

IFS MICRO-ENTERPRISE ENERGY USE

POINTS FROM LITERATURE

- Majority of IFS owners and operators are women
- Energy use is critical for the IFS not only for productive uses but for welfare and strategic needs (Skutsch 2005)
- There is need to update literature (& build concrete evidence) on whether energy access and use benefits women and men differently in the IFS – Most based on assumptions – lack of follow-up on pilots
- Lack of documentation on **negative** impacts of switching from traditional to modern
- Certain energy sources are specifically chosen (regardless tradition or modern) because their benefits – i.e. food flavour, speed

IFS MICRO-ENTERPRISE ENERGY USE POINTS FROM OUR DATA

- Our study found that micro enterprises use multiple energy sources
- Energy ladder concept as transition does not hold true in this sector
- Energy stacking – movement between traditional and modern energy - is much more realistic BUT depends on variety of factors.
- Factors: location, type of product prepared and sold, type of structure, affordability, customer preference, quality of product, ease of use, security of supply, stability of enterprise, Free Basic Energy
- Some factors are prioritised more than others therefore will have more influence
- Some household energy is used for the enterprise.

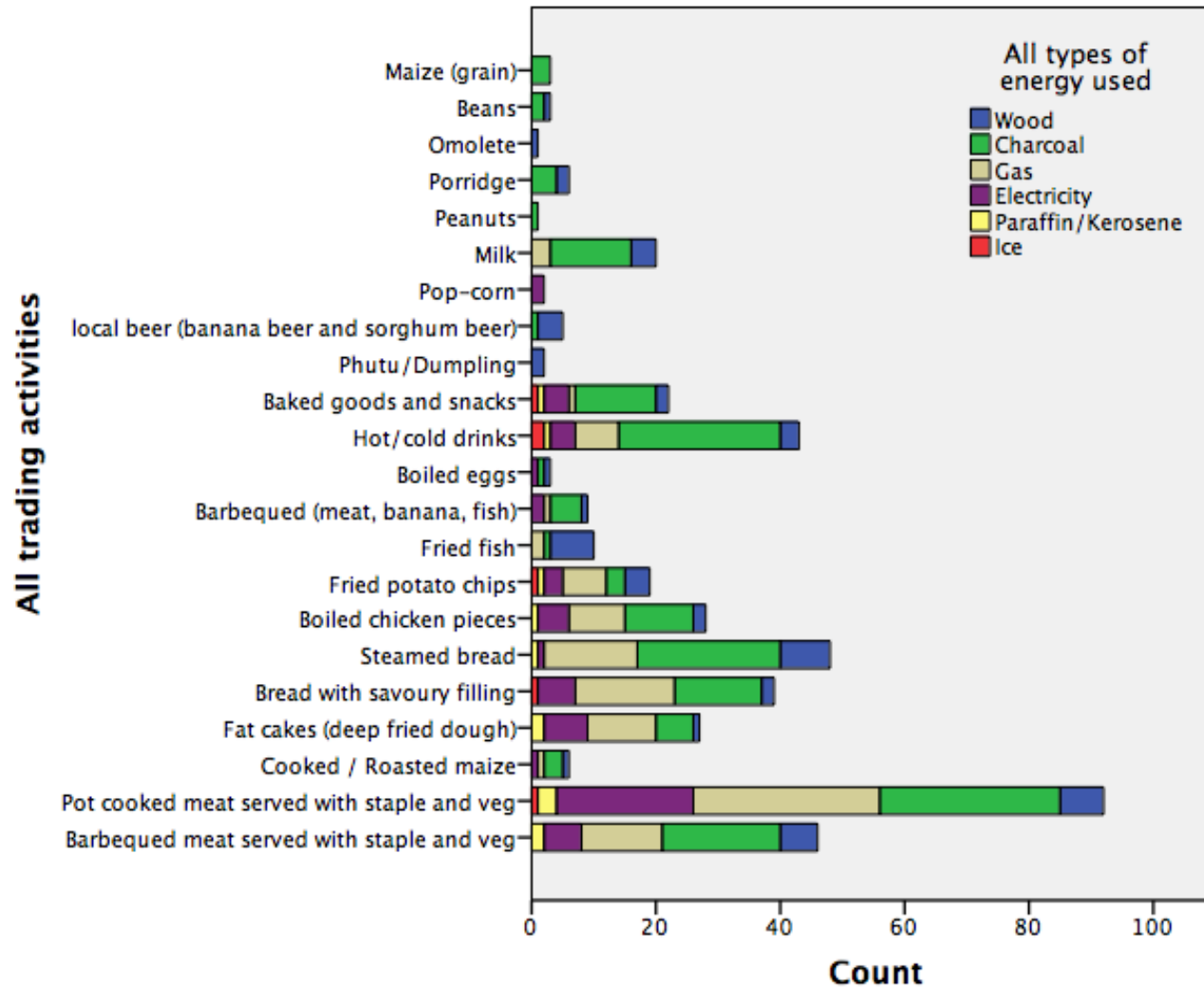
IFS MICRO-ENTERPRISE ENERGY USE

OTHER OBSERVATIONS

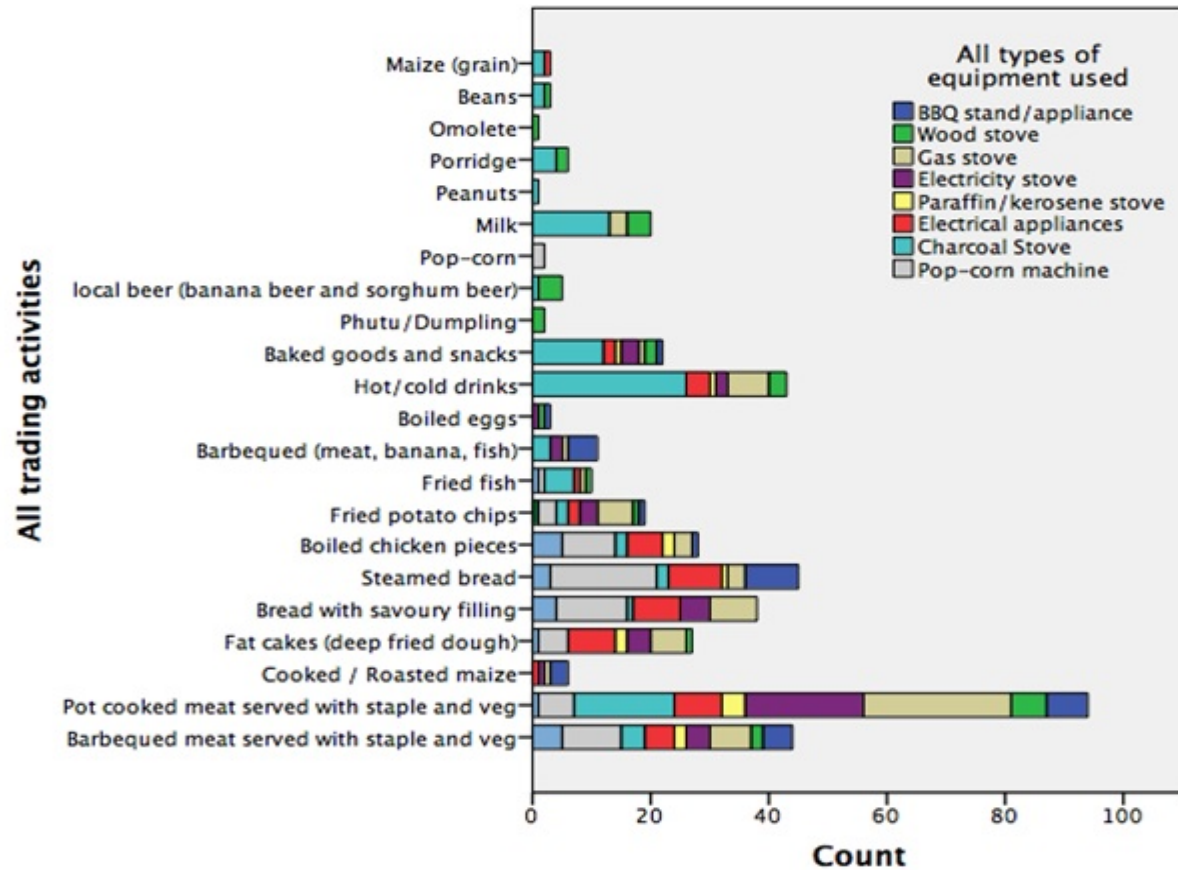
- Lack of refrigeration (and temperature control)
- Low use of electricity for thermal needs and MES in IFS but still important for 'quick' needs such as food warming, water boiling and phone charging
- On policy: Largely unresponsive or silent on energy but urban planning policies and by-laws typically hostile to informal businesses.
 - Authorities' obsession with aesthetics
- Energy policy silent on energy in the informal sector, particularly the IFS

FROM OUR DATA...

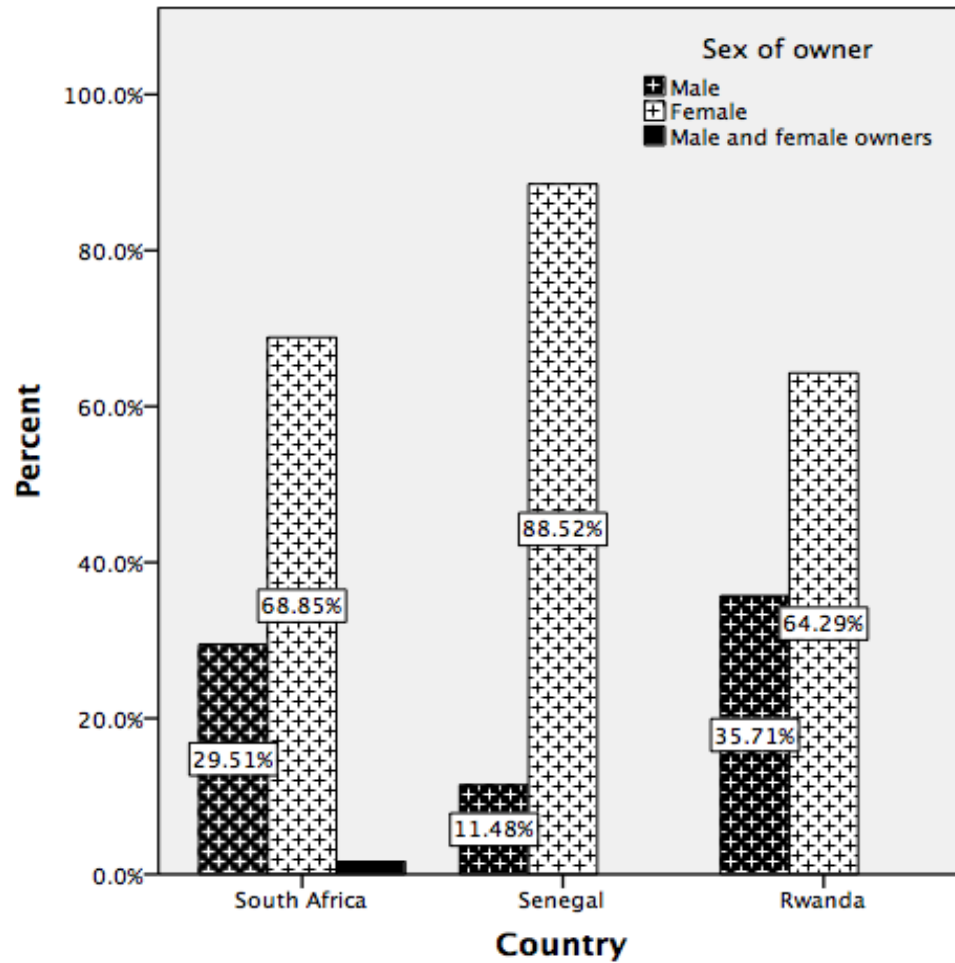
Data Analysis: Energy used & product



Data Analysis: Equipment used & product



Data Analysis: Sex of owner



Data Analysis: Gender & age of enterprise

- SA: 50% of male owners between 1 – 5 years whereas females spread between all categories
- Senegal: 44,4% of female owners more than 10 years whereas males spread between all categories
- Rwanda: most female and male owners less than 1 years or between 1 - 5 years.
- The age of enterprise is influenced by various factors such as location of enterprise, seasonality, security and trading regulations among other issues.

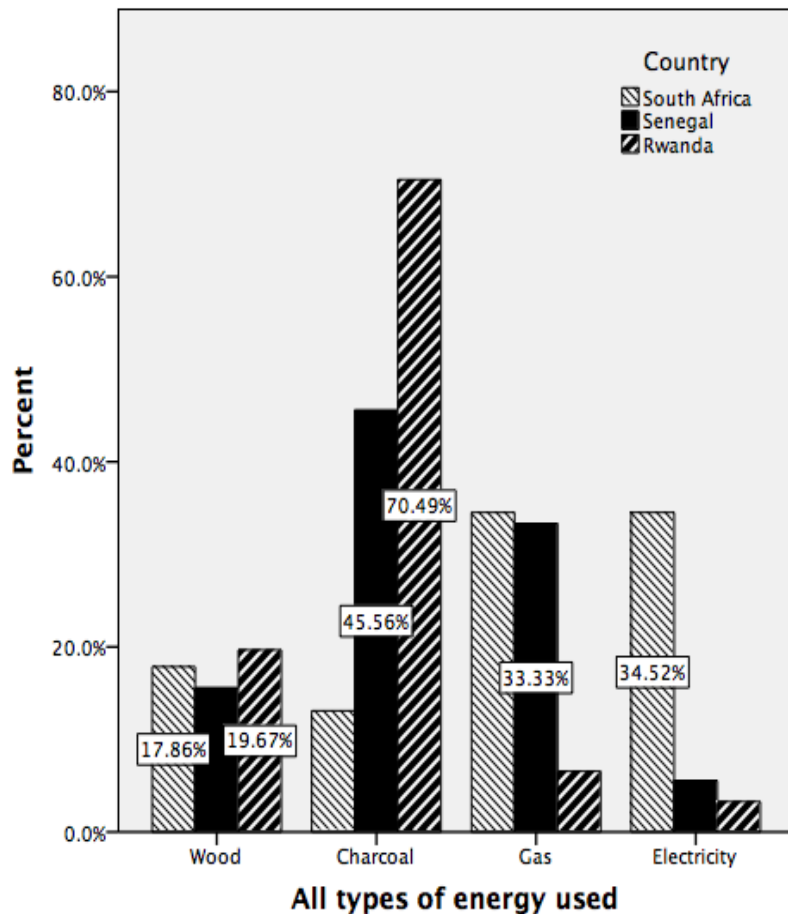
Data Analysis: Gender & age of enterprise

Sex of owner * Length of enterprise operation * Country Crosstabulation
Count

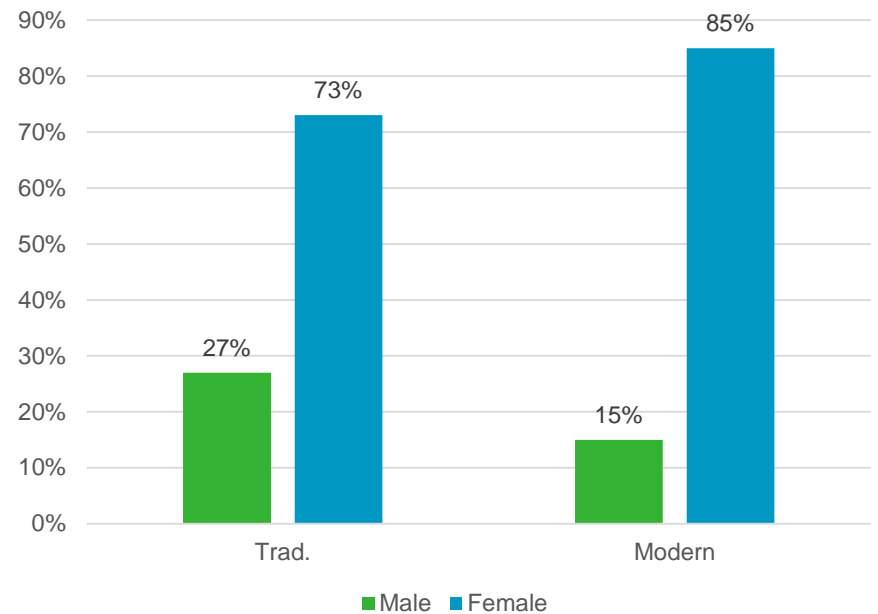
			Length of enterprise operation				Total
			Less than one year	Between 1 and 5 years	Between 5 and 10 years	More than 10 years	
South Africa	Sex of owner	Male	4	9	2	3	18
		Female	5	10	10	17	42
		Male and female owners	0	0	0	1	1
	Total	9	19	12	21	61	
Senegal	Sex of owner	Male	1	2	3	1	7
		Female	4	14	12	24	54
	Total	5	16	15	25	61	
Rwanda	Sex of owner	Male	13	5	2		20
		Female	18	17	1		36
	Total	31	22	3		56	
Total	Sex of owner	Male	18	16	7	4	45
		Female	27	41	23	41	132
		Male and female owners	0	0	0	1	1
	Total	45	57	30	46	178	

Data Analysis: Energy use & preferences

Percentage of respondents' energy use per country

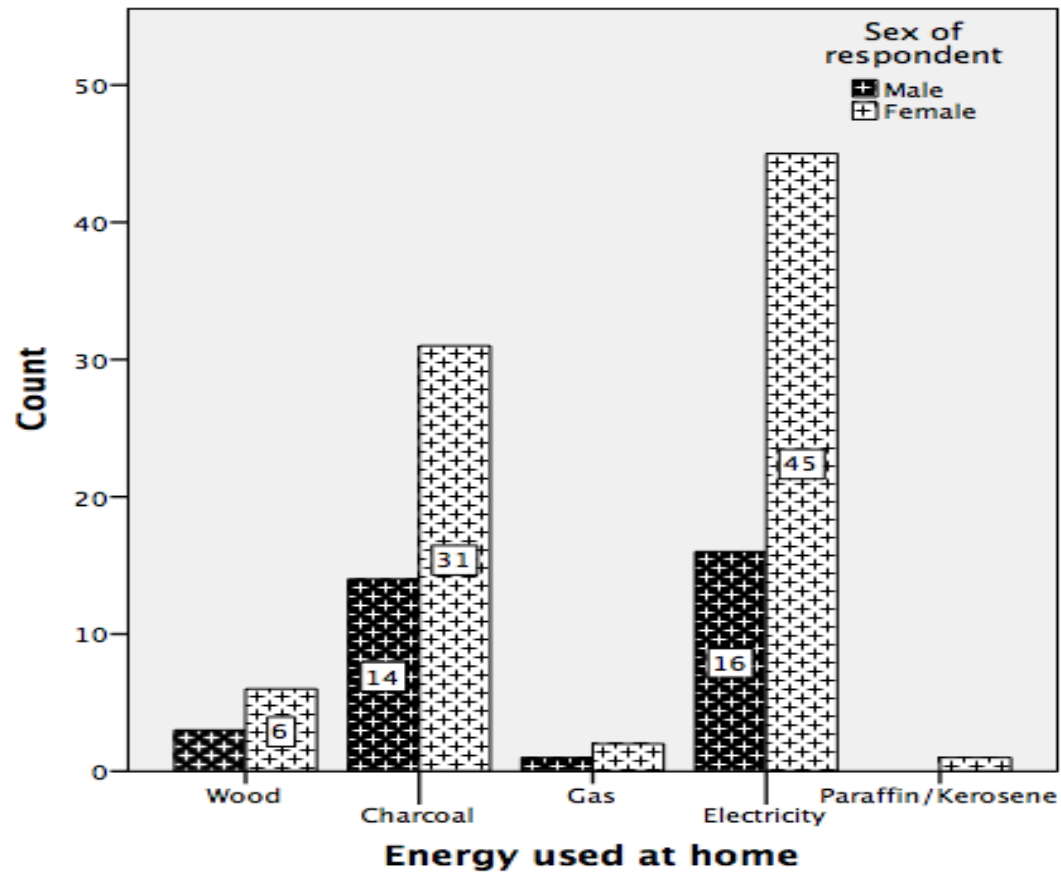


Number of female respondents' preferred energy type compared to males



Data Analysis: Energy use & preferences

Type of energy used at home by female a male respondents



Data Analysis: Energy supply chain

- In Rwanda, most enterprises buy charcoal or wood from **male suppliers** (delivered to site or collected using own transport).
- In South Africa, it is more common to buy charcoal or gas from **supermarkets** and wholesalers
- In Senegal, wood, charcoal and gas are bought from a **variety** of male, female suppliers and shops
- 56% of all energy sources are delivered to site at no cost; 23% are collected using own transport; and only 17% are delivered at cost.

Data Analysis: Advantages and disadvantages per energy source

Energy Source	Top three advantages	% of responses	Top three disadvantages	% of responses
Wood	Cheaper / affordable	52%	None	46%
	Cooks better	22%	Dirty	34%
	Saves electricity	19%	Expensive	15%
Charcoal	Cleaner	39%	None	42%
	Easily Accessible	28%	Runs out quickly	33%
	Cheaper / affordable	26%	Expensive	27%
Gas	Cooks better	33%	Expensive	46%
	Cheaper / affordable	33%	Potentially dangerous	33%
	Easy to use	27%	None	18%
Electricity	Easy to use	39%	Expensive	52%
	Cooks better	32%	None	24%
	Cheaper / affordable	29%	Load-shedding	21%

SOME KEY OVERALL FINDINGS... WHAT HAVE WE LEARNED?

- Limited literature available on women's empowerment, modern energy services and the Informal Food Sector.
- Energy choices by location, type of product sold, regulations and cost, inconclusive that it's by gender.
- The Informal Food Sector is absent in Energy Policy and
- Energy is often absent in MSME policies –
- Where energy is considered in MSME policy, it's not related to gender
- Therefore there is a need to influence policy at different levels to highlight issues of energy use and gender in the IFS