



# Can energy empower women? A case study of the Solar Mamas' project in rural Rajasthan. Discussion on findings.

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# Outline

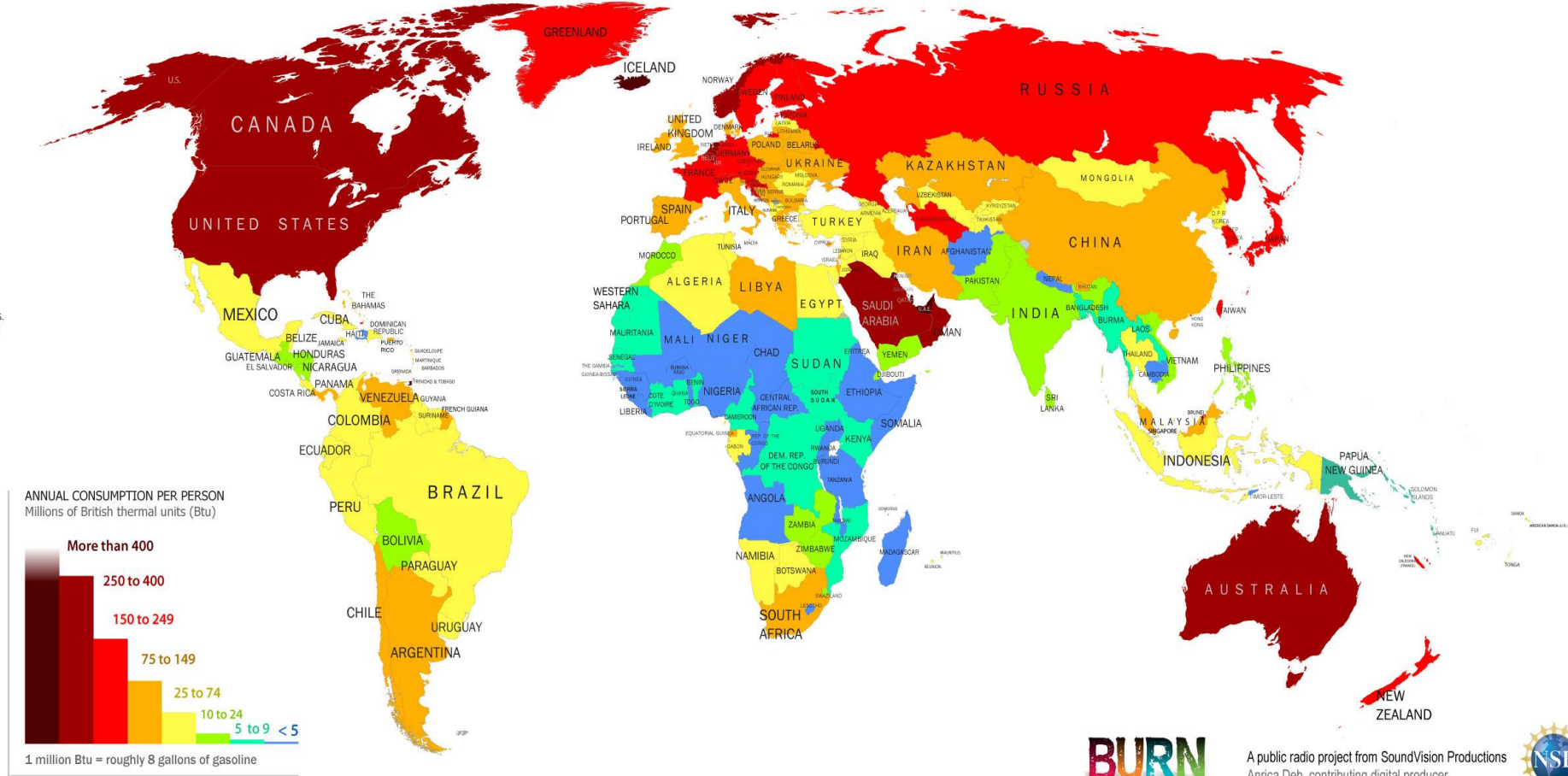
- Energy issues in the global south
- Theoretical perspectives
- Conceptual Framework: Feminist Political Ecology (FPE) & Women's Empowerment
- Dimensions of Empowerment
- Case Study: The Barefoot College
- Methods and Limitations
- First phase findings

## Energy issues in the global south

- Although energy is a basic necessity for human activity, economic and social development, 1.4 billion people lack access to electricity, some 20% of the global population
- The International Energy Agency (IEA) projects that in 2035 still 1.2 billion people will live without access to electricity and 87% of these people will live in rural areas of sub-Saharan Africa, India and other Asian countries not including China (IEA 2010).

# Energy Consumption Per Person, by country, 2010.

SOURCES: U.S. Energy Information Administration, International Energy Agency, CIA World Factbook, U.N. Dept of Economics and Social Affairs



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## ...impacts of unsustainable sources of energy

- +3 billion people worldwide still use biomass and charcoal as energy sources to meet their basic needs (WHO, 2006). Consequently, they are vulnerable to hundreds of pollutants that are related to chronic respiratory diseases and lung cancer (WHO 2006).
- Kerosene, candles and biomass, usually used for lighting, are inefficient since provide poor light, are expensive, environmentally unsustainable, can cause fire hazards and are damaging for people's health (Mills 2005).
- Sustainable energy services are essential to encourage socio-economic development and contribute to poverty reduction (Bossel 1999, Chow 2003, DFID 2002, Modi et al. 2006, Li et al. 2014).

# ...it's not only about the environment

- So far though the literature has stressed the importance of the impacts of such sources on the environment (such as reduction of pollutants) (Schuurman 1993, Abbasi 2000, Tsoutsos et al. 2005, Omer 2008);
- however, other socio-economic aspects such as income generation, rural development opportunities, social integration and gender equality, education and health impacts still require consideration (Pearce 1989, Kammen 1999, Dincer 2000, del Rio 2008, Akella 2009).

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2.2 million premature deaths occur annually from exposure to household air pollution (Smith et al. 2012).

Women, in particular, along with their children, face exposure to smoke from inefficient stoves in poorly ventilated homes, which has high-risk effects on their health; “indoor air pollution is the fourth-biggest killer in developing world” (WHO 2006).

Photo: World Lung Foundation



# Theoretical Perspectives: gender considerations in project and planning

- It has been identified a lack of feminist perspectives when developing, planning, and implementing energy policies and projects in rural areas (Cecelski 1995 and 2003, Levy 1996, Skutsch 1998).
- women especially suffer the consequences of energy service deficiency from different angles such as in terms of access, use, benefits, training, income generation and participation in the decision-making process (Shultz 2001, Dutta 2003, Moser 2003, Clancy 2004).
- energy planning and project have been treated as gender neutral: **however men and women have different priorities, level of access and benefits.**

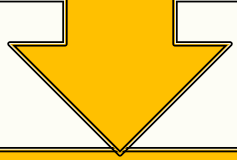




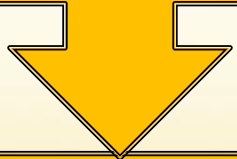
- Gender inequalities in relation to energy service are the consequence of uneven power relations within the society.
- However power is not only hierarchical (power-over) and does not only operate within the household.
- A unidimensional understanding of power a la Lukes (1974) is not enough to theorise power and women's empowerment.
- Feminist Political Ecology (FPE) highlights that in order to conceptualise power relations, it is needed to understand the interplay between intersectional structural relationships including gender, class, race, and other dimensions of difference.

# Theoretical Perspectives: sustainable development

sustainable development strategies were treating women as a homogeneous category that was responsible to look after their degraded local environment. This led to a series of social and gender injustices (Leach 2007).



The process of development in the majority world has, by and large, marginalised women and deprived them of their control over resources and authority within the household, without lightening the heavy burden of their traditional duties.



The need to improve women's access to resources and their participation in the community and decision-making is a key theme in the FPE literature (Boserup 2007).

# Feminist Political Ecology (FPE)

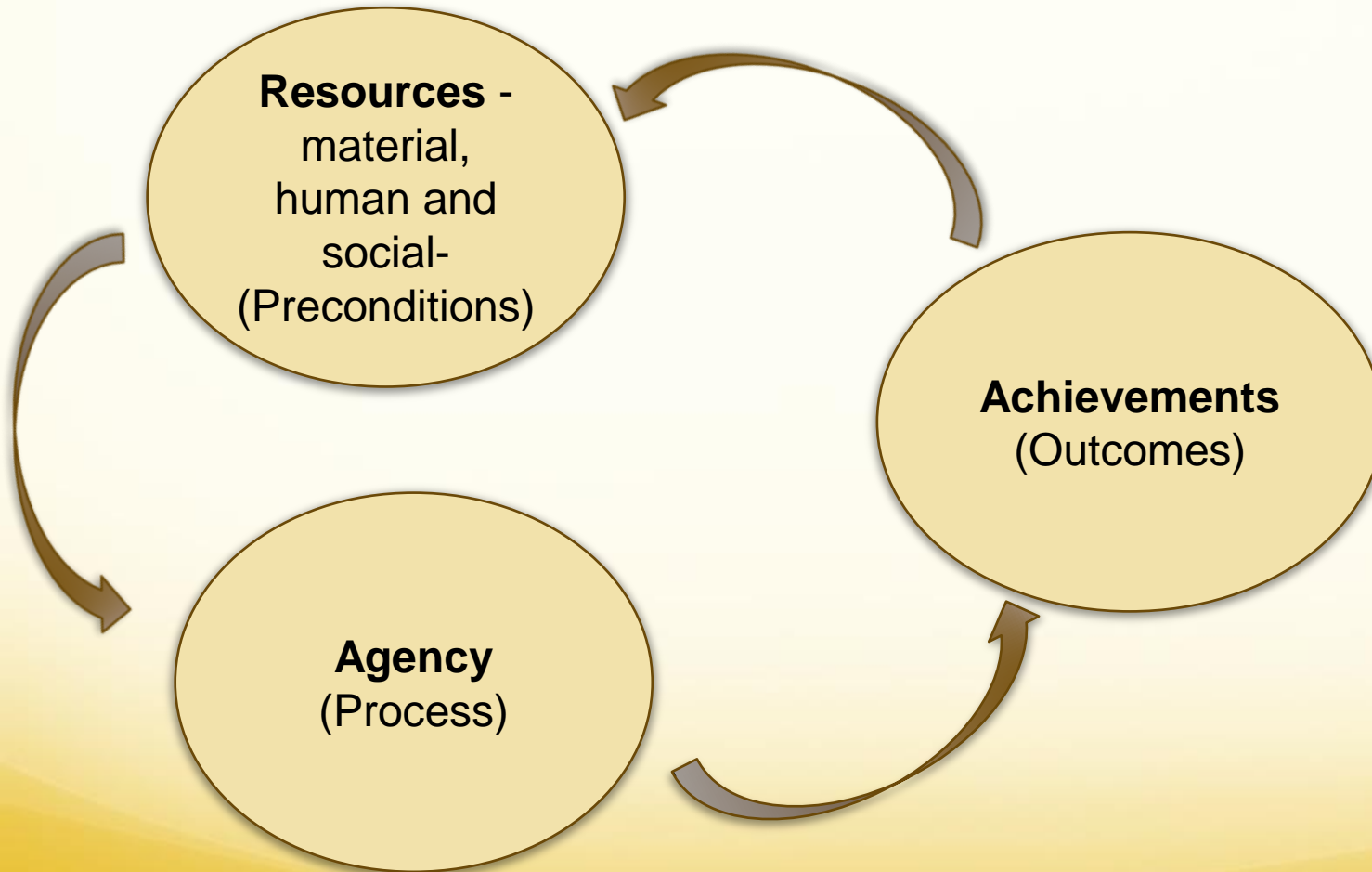
- FPE identifies gender differences as arising from the social interpretation of gender that diverge by class, culture, race and place and that are prone “to individual and social change” (Rocheleau 1996: 3).
- One of the aspects on which FPE focuses is women’s empowerment and the recognition of women’ agency in a variety of livelihood and environmental struggles in everyday practices (Rocheleau 1995, Rocheleau et al. 1996, Boserup 1970 and 2007, Schubert 2005, Sultana 2007, Elmhirst 2011, Truelove 2011, Mollett 2013).

# Women's Empowerment

- *“One way of thinking about power is in terms of the ability to make choices” (Kabeer 2001:18).*
- *“Empowerment thus refers to the expansion in people’s ability to make strategic life choices in a context where this ability was previously denied to them” and thus “empowerment entails a change in the terms on which resources are acquired as much as an increase in access to resources” (Kabeer 2001:19)*
- Hence there should be an enabling “space” for maneuver
- Empowerment starts with women’s conscientisation

# Dimensions of Empowerment:

Kabeer recognises three dimensions of empowerment:



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- In Kabeer's view access is not only to income, human capital or land, but it also includes those skills, knowledge and capabilities that enable individuals to make a choice. Moreover, it comprises the social relationships and links, which support individuals to make those changes happen (Kabeer 2001).
- it is also important to differentiate between “functioning achievements” that reflect more effective agency by women within set gender roles, and achievements that suggest women's transformative agency (Sen 1985, Kabeer 1999b)

<b>Naila Kabeer Women's Empowerment Definition</b>			
<b>Resources</b>			
<b><i>material</i></b>	Income	Energy (for light, heating and cooking)	Food...
<b><i>human</i></b>	Personal skills	Knowledge	Creativity
<b><i>social</i></b>	Social networks	Institutions (market place, family and the State)	NGOs, women's groups
<b>Agency</b>	Participation in decision-making within and outside the household	Personal and collective action (women's activism); personal choices	
<b>Achievements</b>	What changes in the personal, family, professional spheres?	material	personal

# Rajsthani context



- **Rajsthan** is the largest state of India. It is mostly a desert land, about 60% of its total area and includes the Thar Desert in the far west and only contains two perennial rivers, Chambal and Mahi.
- In rural areas of Rajasthan energy usage is mainly for cooking.
- It has very low rainfall with about 325 sunny days a year providing high potential for solar energy use at a small or large scale within the country (Laxmi 2003 and Agoramoorthy 2009).



# Barefoot College, Tilonia

- Believing in Ghandi's philosophy, based on principles of equality, social justice, and sustainable development, the Barefoot College engages with rural communities to address poverty concerns.
- The NGO has been working on rural development projects for over 40 years.
- They operate across south-east Asia, Africa and Latin America, and have brought light to over 1000 villages.
- One of their programmes focuses on small-scale energy PV home systems, solar cookers and solar lanterns. **The Solar Mamas project.**



Photos Barefoot College



# Living conditions



- According to the 2006 Rajasthan Development Report, over 39 per cent of houses in rural areas are *kachcha* and lacking such services (Planning Commission Government of India 2006)
- The College networks with relevant organisations in the area to engage with the local elders who then choose two grandmothers to be trained as “**Barefoot**” **Solar Engineers (BSE)**.

# Barefoot College, Tilonia

- The elders of the community also form a **Village Energy and Environment Committee (VEEC)** and offer a workshop space, the **Rural Electronic Workshop (REW)** where the grandmothers can operate the programme (Barefoot College 2015).
- Funds: the organisation is supported by the UNWOMEN and the UNDP GEF small grants programs, Indian Central Government, the Ministry of New and Renewable Energy, business sector, multi-lateral organisations and private foundations also contribute to encourage and fund energy projects in poor rural areas.



Photo Barefoot College Solar Mamas

# Methods and Fieldwork Limitations:

- Field observations
- Consultation of documents, reports and videos
- Semi-structured interviews to women previously trained as solar mamas and solar cooker engineers and to new trainees
- Two focus groups: with village women using solar panels and with women using solar cookers

## **Limitations:**

- Lack of translators
- Lack of participants (only two new Solar Mamas)
- Weather conditions (monsoons)

# Phase 1 Findings:

Positive outcomes/considerations:	
Motivation behind joining the training	Make a difference to their community
New income opportunities	Salary by community and during the training
Learn new skills	New challenges
Improved self-esteem of the trainees	Recognition by their family and communities
Some women challenged the <i>purdah</i>	More self-confidence
By accessing light at home it was easier to cook and clean	Women could cook and clean the house in the evening
Improved safety and security in and outside the house	Before they were afraid of insects and snakes + protecting the cattle
Design of the solar cookers	Women contributed to improve the design of the cookers
Light mainly used for children's education	Children could read at home

<b>Grey area?</b>	
Why they decided to become solar engineers?	What kind of negotiation process and implications with the husband and the in-laws?
By accessing light women could work in the evening	More income opps BUT some women felt this created extra working burden
When asked what empowerment meant to them not all women could relate to it	A few mentioned self-esteem and recognition within their family and community and only one mentioned women's rights
Issues of ownership of income	In some cases, decisions about expenditure were taken by the in-laws
The income was mainly spent for children's education and food	Limited freedom of choice (was this the real free choice?)
Limited change: improved safety and security, inside and outside the household + energy used when cooking and for education	Life changes more for those who became solar trainers since they moved to live on campus

<b>Limitations:</b>	
Issue of legacy	Women going back to their realities after the training
No awareness of the environmental impact of kerosene, charcoal, fuel wood	The training didn't include environmental awareness
Use of solar cookers on campus	Although available for the main kitchen, they weren't used. Only one was available for the campus community
Gap between training and employment-or short-term employment	More support by the NGO to find jobs? Is it worthwhile training more women?
Empowerment can happen only with collective efforts	Only a few women were involved in women's groups
Issues of correlation and causality between access to energy and empowerment	To what extent are the two concept related?

# Triangulation of data

- Interdependence of dimensions
- Relevance of context
- Influence of social norms



# The role of NGOs and international programmes in supporting Women's Empowerment

- When is the right moment for NGOs to cease supporting women in their journey towards empowerment?
- What is their, the government and the market (...the society?) role in light of the 5th “achieve gender equality” and 7th “achieve affordable and clean energy” Sustainable Development Goals (SDGs) by 2030?
- How are international programmes such as the UN SE4All going to effectively support rural communities and women in particular by 2030?

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Thank you!

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