

BUILDING THE EVIDENCE BASE FOR WOMEN'S ENTREPRENEURSHIP IN THE ENERGY SECTOR (RA7)



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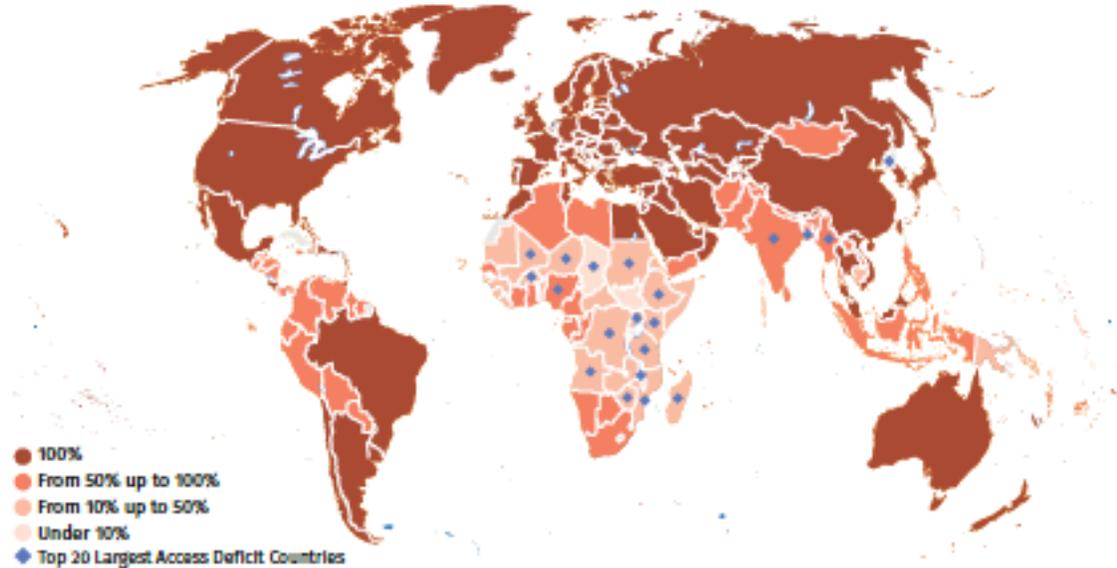
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THE CHALLENGE

FIGURE 2.1 - Share of population with access to electricity in 2016 (%)



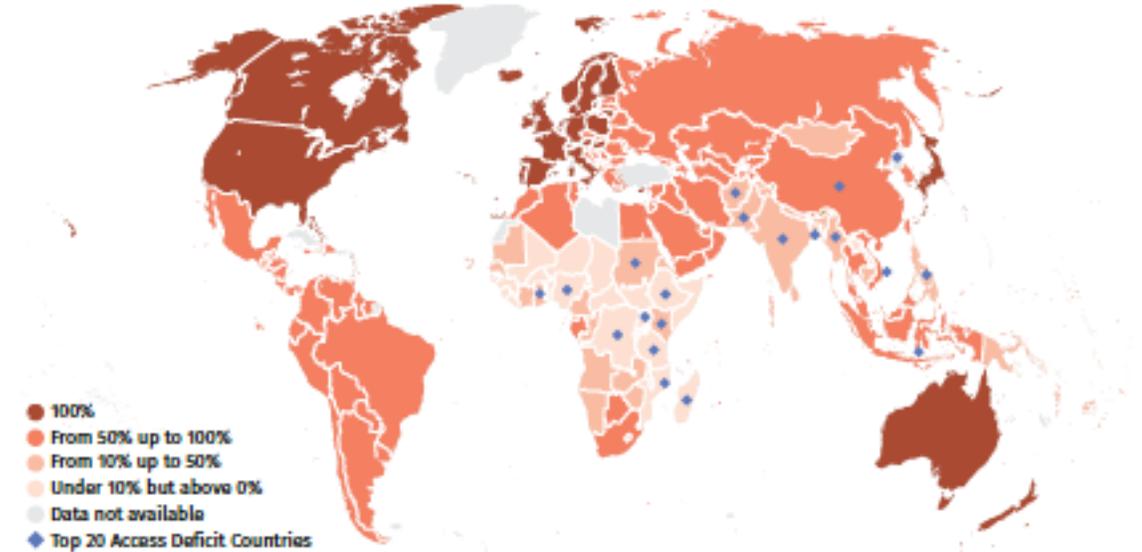
Source: World Bank

Lack of access to electricity

1 Billion

87% rural

FIGURE 3.1 - Share of population with access to clean cooking in 2016 (%)



Source: World Health Organization. Population estimates based on the use UN population data

Lack of access to clean cookstoves/fuels

3 Billion

77% rural

WOMEN'S ENGAGEMENT IN ENERGY SECTOR VALUE CHAINS

- Women represent over 40% of labor force worldwide, but only about 25% of energy sector employment with less than 5% of executive level positions (USAID 2017)
- Women hold 20-25% jobs in renewable energy, varying from 19-20% in Hydropower sector to 27% in Solar energy sector, again concentrated in lower level administration (IRENA 2018; IFC 2018; Solar Fdn 2017)
- Women are key decision-makers for HOUSEHOLD energy use, but energy industry is focused heavily on the INDUSTRY market
- Women are target market for clean cooking and fuels – selling/distributing cookstoves and fuels, repairs – but sector participation is LOW compared to men

IS WOMEN'S ENERGY ENTREPRENEURSHIP THE SOLUTION?



RESEARCH QUESTIONS

- **INCREASED ENERGY ACCESS?** – What is the evidence that women's energy entrepreneurship is a viable way to increase access for underserved populations?
- **BENEFITS FOR WOMEN?** – What is the evidence that being an energy entrepreneur is good for women and their families?
- **WHAT WORKS?** – What current programs or business models demonstrate positive impact?
- **WHAT IS MISSING?** – What are the gaps in research and programs to adequately engage women in this sector?

SYSTEMATIC COMPARATIVE LITERATURE REVIEW

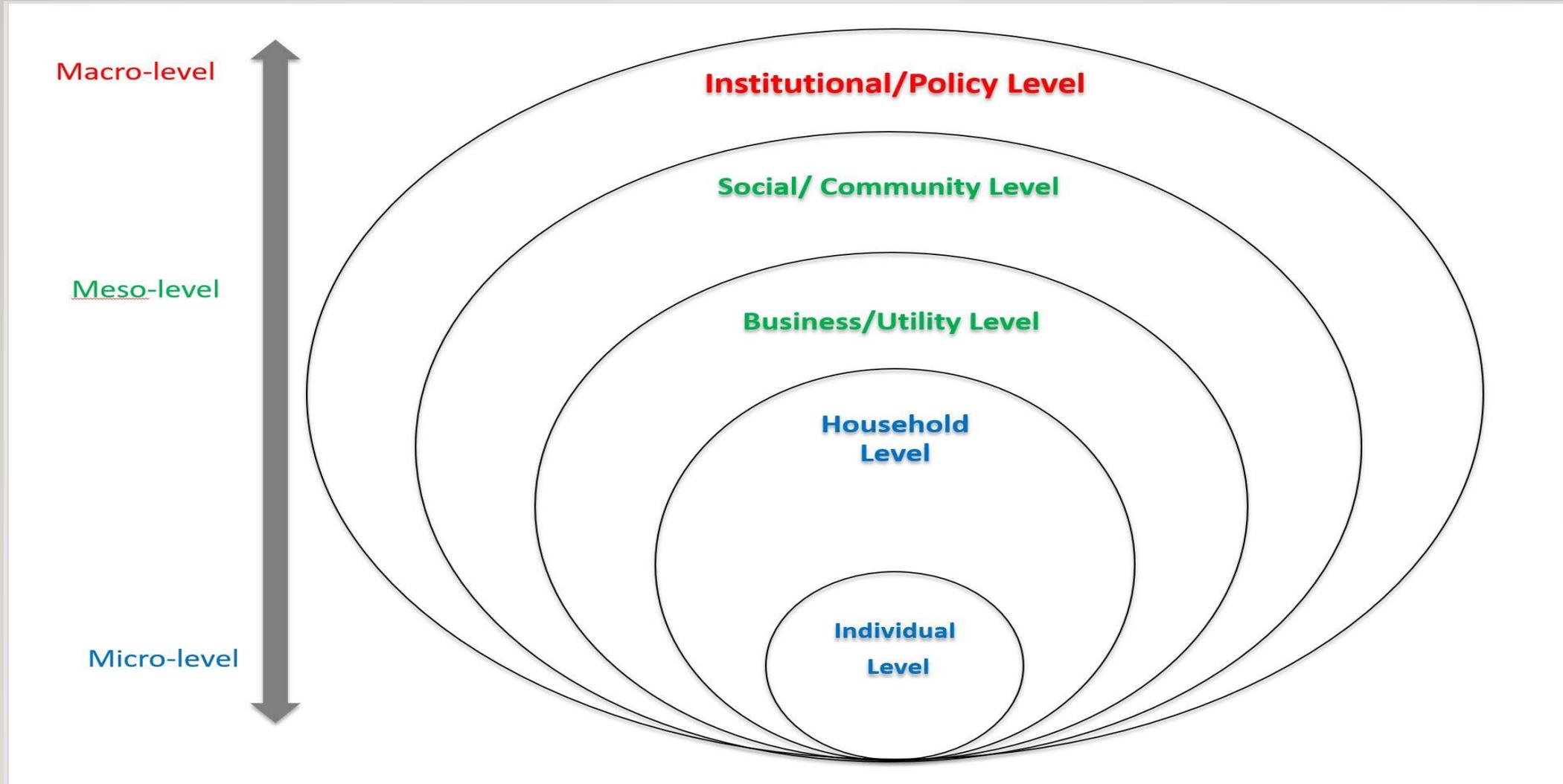
(Tsafnat et al. 2014; Tranfield, Denyer, & Smart 2003)

- Searched 15 databases
- With 15 pre-defined keywords
- For dates 1998-2018
- n=238 filtered from 12,474,493 results
- Excluded newspaper articles, blog posts, legislation, interviews, magazine articles
- Excluded terms such as “pregnant,” “overweight,” “consumption,” and “diet.”

Google Scholar; EconLit; Elsevier; JSTOR; Gender and Development; Science Direct; PubMed; Web of Science; Scopus; Research Papers in Economics (RePEc); PsycINFO; African Journals Online (AJOL); Eldis; Global Health; Psychology’s Feminist Voices

(gender OR women) and combinations of the following keywords: energy; clean energy; entrepreneurship; policy; small and medium (enterprise OR business) OR SME; financing. In total, 15 separate search terms were used: 1) (gender OR women) AND energy entrepreneurship; 2) (gender OR women) AND clean energy; 3) (gender OR women) AND entrepreneurship; 4) (gender OR women) AND clean energy entrepreneurship; 5) (gender OR women) AND entrepreneurship policy; 6) (gender OR women) AND entrepreneurship policy; 7) (gender OR women) AND energy policy; 8) (gender OR women) AND clean energy policy; 9) (gender OR women) AND (small and medium (enterprise OR business) OR SME); 10) (gender OR women) AND (small and medium (enterprise OR business) OR SME) AND energy; 11) (gender OR women) AND (small and medium (enterprise OR business) OR SME) AND clean energy; 12) (gender OR women) AND entrepreneurship AND financing; 13) (gender OR women) AND energy entrepreneurship AND financing; 14) (gender OR women) AND clean energy entrepreneurship AND financing; 15) (gender OR women) AND (small and medium (enterprise OR business) OR SME) AND energy AND financing.

Figure 1: Gender Systems Research Model



Culture interacts with other factors at each level and across levels of analysis to influence individual choices, behaviors, and the allocation of key resources.

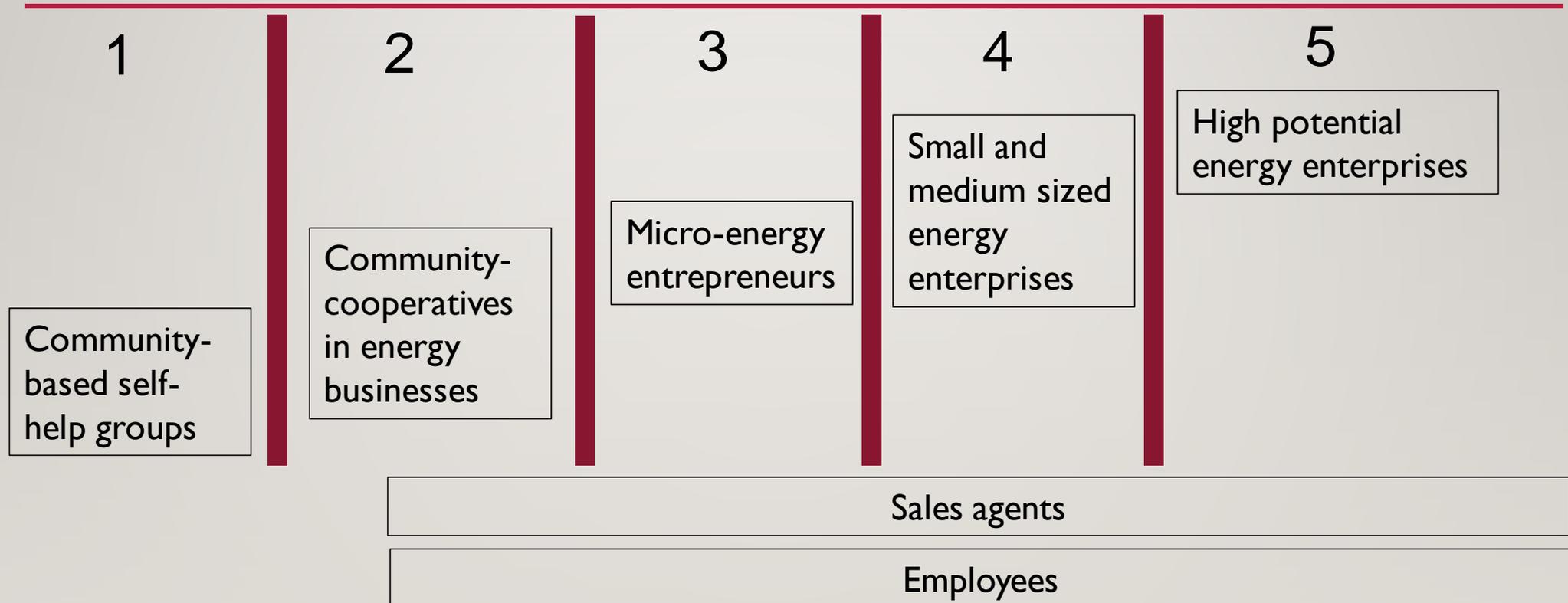
KEY FINDINGS

- Very little research on the role of women's entrepreneurship (WE) in facilitating energy access for all (mostly prescriptive and descriptive, with little theoretical or methodological rigor)
 - Data from **developed** countries – focused on **formal businesses**
 - Data from **developing** countries – focused on the **informal sector**
- Need to draw EVIDENCE from larger literature on GENDER and ENTREPRENEURSHIP as well as from emerging literature on sustainability and entrepreneurship
- Women tend to start businesses with a stronger emphasis on social value compared to male peers, which has important implications for profitability, social and economic impact, and population patterns

Table 1: Factors by Level of Analysis – WORK IN PROGRESS

Level of Analysis	Key Factors for Entrepreneurship	Unique to Women	Unique to Energy
Institutional/Policy	entrepreneurial culture , economic conditions, capital markets, taxes and banking regulations, pricing controls/incentives	gender culture , women's rights to property, political representation, employment incentives/protections, childcare/eldercare support	awareness/priority of energy solutions , energy supply, energy access/proximity, disaster relief, energy subsidies/incentives
Social/Community	occupational prestige for entrepreneurship, entrepreneurial role models & mentors, local markets and economies, political stability, local infrastructure (telecom, transport, banking & investment), business networks & associations, education and training programs, professional and commercial services	gender culture , security, women's unions, tolerance for domestic violence, acceptance of female leadership and business activity; women-focused mentoring/training programs	energy awareness ; STEM education & training; local energy stewardship
Business	industry/market sector (size, maturity, profitability), product/service, innovation, business age & size, organizational goals & strategy , business models, access to growth capital, labor supply, domain expertise, business advisors, training/mentoring, commercial and professional services,	gender culture, acceptance of female leadership , social value creation, gender composition of occupation/industry/market, qualifications for financial access, access to social networks, women-only networks/programming, management skills/styles	energy awareness , energy occupational/industry market, capital-intensive industry; STEM expertise; product/service innovation
Household	occupational prestige for entrepreneurship , household income, organizational goals & strategy, family size and support, urban/rural location, access to transportation, telecom, etc.	gender culture, household division of labor , household income, financial control & bankability, property ownership norms, domestic violence, childcare/eldercare arrangements	energy use/awareness/access , technology needs or wants, decision-making
Individual	occupational prestige for entrepreneurship , education, skills, experience, gender, age, immigrant status, status within household, family role, time demands, alertness to opportunity, optimistic, fear of failure, confidence/agency (locus of control, self-efficacy)	gender culture, social dominance , access to education, carework burden, mobility, security, time poverty, perceptions, confidence, etc.	energy awareness , STEM education & experience; status awareness

WOMEN'S ENGAGEMENT IN THE ENERGY SECTOR A DIFFERENT PERSPECTIVE



INTER-SECTORAL INTERVENTIONS TO CATALYZE PROGRESS FOR ENERGY ACCESS

- One SIZE does NOT fit ALL
- Integrated interventions are more likely to succeed (that simultaneously address different aspects of the gender system)
- Need to be ‘Women-Focused’ offerings
 - Mobile-based financial services (eg pay for use models)
 - In kind support vs cash for business
 - Personalized coaching and mentoring, role models
 - Strengthen social networks
 - Address confidence, personal initiative, agency