

A Gender Approach to the Promotion of Productive Uses of Electricity

Interventions promoting productive use of electricity (PUE) without gender approaches are more likely to benefit men than women. Men typically own more businesses and operate in a wider range of more productive, electricity-intensive activities. Gender approaches improve the effectiveness of PUE projects, benefiting both men and women as productive electricity users and increasing electricity suppliers' financial sustainability. Policy recommendations include setting gender goals, selecting activities to create or upgrade with improved energy supply, and targeting the different constraints men and women face to benefit from PUE.

Why is promoting productive use of electricity important?

Providing universal access to sustainable energy is an international priority. The United Nations' Sustainable Development Goals (SDGs) set a specific goal (SDG 7) to achieve 'universal access to affordable, reliable and modern energy services' by 2030. Productive use of electricity (PUE) refers to using electricity to generate income (in formal and informal enterprises, both home based and in enterprise locations), including farm and non-farm income generation.

To achieve universal access to modern energy, development actors have focused on electricity due to its potential to reduce poverty and drive economic and social development. Electricity increases productivity, enables new types of job-creating enterprises, and reduces household chores to free up time for paid work. However, 57 per cent of people in sub-Saharan Africa lack access to electricity. In regions that have progressed quickly towards full electrification – for example, Southeast Asia – countries such as Myanmar lag behind, with 44 per cent of people lacking access. In underserved countries, households, businesses or public services connected to electricity grids receive a poor service, with

frequent power cuts and voltage drops, significantly hampering poverty reduction.

One reason progress towards full electrification has been particularly slow in sub-Saharan Africa is that reaching remote rural populations is expensive. Often, rural incomes cannot cover the cost of supply. Intensification approaches that improve the supply to urban areas already served by the grid, where the population has outgrown existing infrastructure, can also be financially unsustainable.

If electricity is not used in productive activities to generate new income, it remains unaffordable for the majority, putting consumers and suppliers under financial strain. Therefore, subsidisation or promotion of PUE are required to pay for electricity supply in poor areas. Given severe budget constraints in countries with low electrification rates, promoting PUE is likely to deliver more efficient and financially sustainable outcomes.

Research shows that the arrival of electricity is not enough to foster growth in the local economy. Enablers such as access to finance for equipment, to markets for new production, or to skills and networks to harness new

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opportunities must be in place. Integrated interventions that provide electricity while promoting PUE are needed.

Why is it important to consider gender issues in promoting PUE?

PUE interventions have generally been gender blind, assuming equal benefits. Gender blindness in this context is likely to deliver unequal outcomes, because women and men occupy different roles in the productive economy. Women are less likely to be employed than men; earn lower wages; and are more likely to run informal enterprises from their homes. Women are over-represented in a narrow range of low-productivity occupations, while men occupy the most mechanised and electricity-intensive sectors such as construction, manufacture, and repair.

Understanding the gendered impact of modern energy on PUE is essential to design gender-equitable interventions. Gender approaches can deliver community-wide welfare improvements and increase the productive customer base, and hence electricity suppliers' financial sustainability.

To improve evidence on the gender outcomes of PUE interventions and support the design of gender-aware interventions, we carried out research in Tanzania, Ghana, and Myanmar. These countries have all benefited from electricity access and PUE interventions, but only Tanzania has also piloted gender approaches.

The communities in Tanzania and Myanmar were rural, whereas in Ghana we analysed urban communities where light industrial zones had been promoted and provided with improved electricity supply. We used a mixed-methods approach, gathering quantitative data through business censuses and enterprise questionnaires responded to by more than 716 enterprise owners and qualitative data via 136 interviews and focus group discussions that hosted a total of 241 participants.

Do men and women benefit differently from PUE?

Evidence from our case studies in three towns in the Brong Ahafo region, Ghana, and five villages on islands in Lake Victoria, Tanzania, shows that when PUE interventions are gender blind, men-owned enterprises (MOEs) benefit more than women-owned enterprises (WOEs). This is because:

- **Men own more businesses than women and typically employ other men.** Only 29 per cent of the 600 enterprises in the Tanzania census are owned by women; in Ghana, only 13 per cent of enterprises within light industrial zones are WOEs. In both countries, WOEs more frequently employ women, as MOEs do men.
- **MOEs use more electricity.** Women across the three countries typically operate in less electricity-intensive sectors, mainly related to food preparation, hospitality, tailoring, hairdressing, and retail. Men's activities are more mechanised and electricity-intensive, including milling, metalworking and woodworking, machine repair, and construction. Close to 75 per cent of MOEs in Ghana and Tanzania use electricity, but figures for WOEs are 60 per cent and 55 per cent, respectively.
- **MOEs spend more on electricity than WOEs.** MOEs spend three times as much on electricity than WOEs in rural Tanzania, and twice as much in urban Ghana.
- **WOEs use cooking fuels more frequently and spend more on them than MOEs.** In urban Ghana, 60 per cent of WOEs use charcoal, compared to 5 per cent of MOEs;

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Perspectives from newly connected electricity consumers in Tanzania and Myanmar

‘I can now use a water pump instead of paying someone to collect water from the lake. This has reduced the cost of water by two-thirds.’ Female guesthouse owner, Tanzania

‘I am now able to offer more sewing styles and embroidery. My income has more than doubled and is more stable.’ Female tailor in Bwisya, Tanzania

‘I could finish three to four items of clothing in the past, but now I can finish five or six in the same time. I get more earnings.’ Female tailor in Myanmar

‘Thanks to electricity, my business has dramatically reduced costs as compared to diesel or petrol. I can now produce large quantities in a short time.’ Male miller, Tanzania

‘Carpenters are improving. Before, it took two to three days to finish one task by hand. Now, they are faster as they work with machines.’ Male carpenter in Myaing, Myanmar

and in rural Tanzania, 30 per cent and 9 per cent, respectively. Use of other cooking fuels, mainly firewood and LPG (gas), is at least three times higher in WOE than MOEs.

- **Electricity has a positive effect on business performance regardless of the owner's gender.** Businesses' use of electricity was associated with higher profits for male and female entrepreneurs. Access to electricity could reduce poverty among the whole community.

Why does PUE benefit men and women differently?

- **Women operate in smaller, informal enterprises, with less financial control and openness to external markets.** Profits in WOE in rural Tanzania are nearly half those of MOEs. In urban Ghana, women have more (female) employees than men, but their salaries are less than half those of male employees. The share of MOEs formally registered in Tanzania is nearly 60 per cent, compared to 37 per cent of WOE. Only 40 per cent of WOE sell to customers from outside their village in Tanzania, compared to 57 per cent of MOEs. Differences are not statistically significant in Ghana.
- **Social norms determine the gender division of labour. In both rural and urban contexts, people viewed some productive activities as being for men and others for women.** Women are banned from certain key activities in the rural economy, such as fishing on Tanzanian islands. Others, such as milling or welding, are considered inappropriate for women. These patterns are slowly eroding in urban contexts, with more women venturing into typically male activities. Nonetheless, when women and men operate in the same sectors, women do it at a smaller scale (e.g. having fewer

freezers in a cold store or smaller milling machines in rural Ghana) or in positions of lower responsibility. Occupational segregation derives from socially constructed as well as biological differences between men and women.

- **MOEs enjoy better starting conditions in terms of capital, resources, and skills.** Women's restricted access to finance was clear in rural Tanzania, where their starting capital is a third of men's; and 22 per cent of women entrepreneurs hold bank accounts compared to 43 per cent of men. However, in urban Ghana more women entrepreneurs hold bank accounts than men. Gender differences in educational attainment were clear in the Tanzania sample, but not in Ghana. Access to and control over resources were biased in favour of men in all three countries. Men displayed greater access to and control over most resources, except cooking fuels and appliances; and they controlled the most valuable assets, such as land, buildings, vehicles, heavy machinery, furniture, and livestock.
- **Women have more demanding care responsibilities, which determine their motivations to run businesses and impose location and mobility constraints.** Women more frequently operate businesses either from or close to home, and are open for less time than those run by men. Although in the Ghanaian urban context men have taken on more household responsibilities, such as ironing or looking after children, some chores remain distinctively female in urban and rural contexts, such as cooking and washing. We observe gender differences in motivations in Tanzania, with women more likely to run a business to cover daily needs and men driven more by ambition. These differences disappear in Ghana.

Policy recommendations

The following recommendations seek to integrate and enrich PUE guidelines provided in previous literature with gender approaches based on evidence.

- **Set clear gender goals for PUE interventions.** Without gender approaches, interventions are more likely to benefit men. Suppliers and beneficiaries should be involved in defining ambitious but achievable gender goals at the design stage (e.g. the number of new enterprises, employment, income or profits), which are monitored thereafter.

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“Electricity has a positive effect on business performance regardless of the owner's gender.”

Policy recommendations (cont'd.)

- **Understand men and women's current roles in the local economy and how electricity could transform these.** Without gender approaches, the largest, most visible (formal), energy-intensive activities with the highest growth potential – and which men typically dominate – are prioritised in selecting electricity-consuming activities to be upgraded or created. We recommend:
 - a) **Holding gendered enterprise censuses**, showing the distribution of enterprises by the gender of owners and employees. Participatory tools such as activity and energy use mapping enrich more traditional quantitative enterprise censuses.
 - b) **Establishing gendered value chains**, mapping men and women's involvement to identify opportunities for women to move to higher-value activities and the capital support they would require, such as access to electrical equipment (e.g. freezers for fishing enterprises, agricultural water pumps and electric milling machines).
 - c) **Generating new business ideas** that require electricity and could allow women to break into productive activities where traditional gender roles have not been allocated. However, promoting start-ups is more time- and funding-intensive than promoting change in existing businesses.
 - d) **Undertaking technical, economic, and financial feasibility studies.**
- **Design inclusive PUE promotion projects** targeting the different constraints men and women face, considering, for example:
 - a) **Access to finance and equipment.** Different strategies are required to match the needs of men and women. In some contexts, finance is more likely to be spent on household needs when given to women. Transfers in the form of equipment rather than cash may be more effective.
 - b) **Access to clean cooking fuels**, rather than just focusing on electricity, to benefit the food preparation sector, which women dominate.
 - c) **Diverse training programmes**, which build soft skills and self-confidence besides technical and business skills. Policies to increase women's exposure to decision-making positions or in highly capitalised sectors could help overcome gender division of labour. Examples include quotas for women in training programmes and apprenticeships; mentoring programmes; and mutual support networks.
 - d) **Supporting women to scale up their businesses.** The small-scale character of WJOEs restricts growth and keeps them as relatively low-level electricity consumers. By forming women's associations, they could target customers, access lower-cost supplies or increase their bargaining power.
 - e) Raising awareness at community level to **change attitudes to women's involvement in paid and unpaid work.** Greater education and exposure to the changing roles of men and women in other contexts can prompt attitude changes. Meeting religious and political leaders, teachers, students, and influencers improves acceptance.

Further reading

IDS and GIZ (forthcoming, 2019) *Unlocking the Benefits of Productive Uses of Energy for Women in Ghana, Tanzania and Myanmar*, Research Report RA6, ENERGIA

Cecelski, E. and Dutta, S. (2011) *Mainstreaming Gender in Energy Projects: A Practical Handbook*, Practical Action

Brüderle, A.; Attigah, B. and Bodenbender, M. (2011) *Productive Use of Energy – PRODUSE: A Manual for Electrification Practitioners*, Eschborn, Germany: EUEI PDF and GIZ

Maestre, M. and Pueyo, A. (forthcoming, 2019) *Unlocking the Benefits of Productive Uses of Energy for Women. Participatory and Qualitative Tools Guidelines*

Credits

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