

ELECTRICITY

Women and Electrification: What Women Want Electricity For



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A briefing paper based on primary research conducted in the Karen and Kachin regions to examine how differing levels of access to electricity influenced life in semi-rural and rural Myanmar.

INTRODUCTION

Significant research highlights the potential of electricity to improve the lives of the poor.

In particular, electricity is said to generate economic growth,¹ enhance health and education outcomes² and lead to reduced family size.³ However, much of this literature does not distinguish between different sources and voltages of electricity supply and fails to explore the differences between men and women's electricity uses and needs.⁴

Decentralized/off-grid solutions are sufficient for many women's current electricity uses and the perceived benefits of a national power grid are dependent upon urgent reforms to the nation's infrastructure and services. This brief examines the specific ways men and women use electricity in rural Karen and Kachin when they have it, and details what those without electricity expect they would use it for. A primary reason for listening to women's voices on electrification in Karen and Kachin, and for disaggregating male and female attitudes to and uses of electricity, is to affirm the critical importance of lighting in women's lives.

1. Wolde-Rufael, Y (2009) Energy consumption and economic growth: The experience of African countries revisited *Energy Economics* 31(2):217-224 and Shiu, A & Lam, P (2004) Electricity consumption and economic growth in China *Energy Policy* 31(1):47-54 unpack this claim in more detail

2. Fay, M Leipziger, D, Wodon, Q & Yepes, T (2005) Achieving child-health-related Millennium Development Goals: The role of infrastructure *World Development* 33(8):1267-1284

3. Sokari-George, E & Emeruem, J (1991) Rural electrification: A study of socio-economic and fertility change in Rivers State, Nigeria *African Study Monographs* 12(4):167-183

4. Skutsch, M (2005) Gender analysis for energy projects and programmes *Energy for Sustainable Development* 9(1):37-52

People were asked what they used electricity for and what they perceived the advantages of electricity to be. In both interviews and focus groups women and men observed five core advantages to electricity. These were; education; care-work; business; entertainment; and cooking. They are addressed in this order as this was how women prioritized them; ascertained through examining their answers in the focus groups and responses to the survey.

This brief's claims are based on primary research conducted in the Karen and Kachin regions of Myanmar. The object of this research was to examine how differing levels of access to electricity influenced life in semi-rural and rural Myanmar.

To this end 20 focus groups and 40 interviews were conducted (twenty with key informants for civil society and twenty semi-structured interviews with village leadership) and 100 surveys were completed. 6 villages in rural Karen⁵ were selected for research, as well as 5 villages in the outer areas of Myitkyina township, Kachin. These villages were selected to ensure the study encapsulated various governance structures, across multiple religions and with electricity access ranging from full-electrification, provided by a Chinese electricity company, to no electrification at all. In each village, people's electrification access and use was examined, with a particular focus on women.

5. Mi Kayin and Ku Yin Village, Hpa-an Township; Kyar Inn Gyi and Mingalar Kone Village, Kyar Inn Seik Gyi Township; Tadaroo Village, Hpa-pon Township; and Moe Aye Myaing Village, Hlaing Bwe Township.

6. Fan,S @ Hazell, P(2001) Return to public investments in the less-favoured areas of India and China *American Journal of Agricultural Economics* 83(5):1217-1222 and Fay,M Leipziger, D, Wodon, Q & Yepes,T(2005) Achieving child-health-related Millennium Development Goals: The role of infrastructure *World Development* 33(8):1267-1284.

EDUCATION

Women's primary use and desire for electricity related to its ability to enhance their children's education prospects. When asked in focus groups about the advantages that electrification provided, the first answer provided by women in Karen and Kachin was overwhelmingly education. When filling out individual surveys nearly 50% of women identified children's ability to read at home or simply children's education as a benefit they either had received from electricity or expected to receive if they obtained access to electricity. In contrast, only a quarter of men's focus groups identified children's reading or education as an advantage of electricity and 26% of men mentioned it in their individual surveys.

There is significant correlative data showing a link between electricity access and education results.⁶ Interviews with women and educational CSOs in Karen and Kachin imply that in rural Myanmar this often plays out through household lighting, which enables children to study outside school hours. There are therefore significant questions about whether sources of electricity which provide more than household lighting have any additional benefit to children



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in these areas' educational outcomes. Given that what emerged from the research is that women desire electricity to help with their children's educational attainment, then a focus on household lighting, which can be provided by a relatively cheap household solar or off-grid electricity supply, combined with teachers' salaries and textbooks may be better use of government funding than electrical grid infrastructure.

CARE-WORK

Rather unsurprisingly, care-work played a more significant role in women's experiences of and desire for electricity than men. 33% of women and 10% of men used their anonymous survey to either claim to use or want to use electricity for some form of care-work. This ranged from cleaning and ironing (the only things identified by male respondents) to looking after children's healthcare and hygiene needs. Importantly, focus groups and interviews showed that while home lighting was necessary for this care-work, it was not always sufficient. Women, in particular those in Kachin, expressed the need for public lighting that

would assist them in taking their children to the hospital late at night. For many women, a well-lit path through areas of physical danger (either from the environment or men) would be preferable to a slightly closer hospital.

BUSINESS AND ENTERPRISE

One of the most commonly referenced advantages of electricity is its potential to bring economic growth.⁷ Amongst those who did not have electricity, 36% of women and 54% of men respondents to our survey explained that they want to use electricity to start some form of business. There were substantive differences between the businesses that the men and women interviewed aspired to open and these businesses' electrical needs. Men primarily wanted to open energy intensive businesses outside their homes. The most common of these were carpenters, welders and printers. All these businesses are energy intensive and may require either connection to a high-voltage power grid or the use of a powerful, and therefore

expensive, diesel generator. Women typically desired to start businesses in or near their home, with the only resource required being the additional work-hours lighting would enable. These businesses were often agriculture based, like raising pigs in the evening after working in the fields, or cooking for intra-village markets.⁸

High-voltage, on-grid electrification in rural areas may result in economic growth. However, in doing so it may constitute a transfer of wealth from the community's poorest (women, especially female-headed households) to its wealthiest (male entrepreneurs). This is particularly concerning in communities where village electrification committees charge each household the same amount for a village's electricity- a practice observed by Kachin CSOs. Metering of electricity is desirable for managing usage and removing distortionary effects that favor the

7. World-Rufael, Y (2009) Energy consumption and economic growth: The experience of African countries revisited.

8. This paper will not explore the valid critiques that enterprise opportunities which do not reduce women's care-work in fact entrench existing intra-household relations. Rather it merely observes that this was a presence of the women studied.

wealthy, who have more electrical appliances. Further, while the businesses women aspire to build on livelihood practices they are already involved in, many of the male interviewees desired businesses that may be unviable. Almost all of the enterprises that men were interested in starting needed access to urban markets. This is a problem in Karen where few villages are connected to major roads. A particularly striking finding from Kachin was that in a village about an hour and a half's drive from the centre of Myitkyina, which had been created by a Chinese company to house people relocated for a dam (and therefore received free electricity), almost no-one had been able to set up a viable business due to the poor roads and a lack of investment capital and business training.

Most of the businesses women were attempting to start only required lighting or minimal electricity. Many men's business aspirations required more electricity, the type sourced from a national grid or from a generator. However, these businesses also required substantial increases in infrastructure (typically roads).

The evidence implies that a combination of off-grid electricity and infrastructural investment will have a greater positive effect on women's businesses and their economic lives more generally than on-grid electricity.

ENTERTAINMENT AND LIFESTYLE

Men and women, in both Karen and Kachin, saw entertainment and lifestyle products as a core benefit of electrification. Over a quarter of women and an equivalent number of men either responded that they used electricity to watch television, listen to the radio, socialize or buy goods like cold drinks and fried meat which they considered to be luxuries. It is important to recognize that television and radio access play an important role in supporting attitudinal change. For instance TV access has been shown to assist rural women in demanding better treatment from their fathers and domestic partners.⁹ It is therefore likely that boredom alleviating technology has a small role to play in combating drug abuse and outmigration.¹⁰

In our study Karen women described these as among the largest problems their community faced.

However, a deeper analysis of the survey data and interviews with key informants implies problems associated with entertainment and lifestyle. In environments where electricity costs are shared equally across the community, entertainment is likely to be a benefit of electrification only available to the wealthy. Supporting this, when only examining the surveys of people who either had off-farm employment or children with off-farm employment, 66% of women and 70% of men mentioned entertainment and lifestyle as core advantages of electrification. Further, several CSOs expressed a concern that rural electrification had brought with it increased beer station patronage, indicative of an intra-household transfer of capital to male household heads.

9. Jensen, R & Oster, E (2009) The Power of TV: cable television and women's status in India *The Quarterly Journal of Economics* 124(3): 1057-1094

10. Wegner, L et al (2006) Leisure Boredom and Substance Use Among High School Students in South Africa *Journal of Leisure Research* 38(2)249-266



'Amongst those who did not have electricity, 36% of women and 54% of men respondents to our survey explained that they want to use electricity to start some form of business.'



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COOKING

Perhaps the most surprising finding of this study was the limited emphasis women placed on cooking appliances as an advantage of electrification. Women's desire to cease using wood-based cooking methods is commonly presented as the most important benefit of electrification, freeing up leisure time, providing health benefits through reduced smoke inhalation and mitigating deforestation.¹¹ While women spoke much more about their desire for lighting in their kitchens, few spoke about wanting to use an electric cooker. Women appeared skeptical as to whether their cooking would be as high quality using electricity. Adding veracity to this observation, in the village where the Chinese company provided free, unlimited electricity only a quarter of women choose to cook on an electric stove.

It may be that there are cultural reasons driving the reluctance of women to adopt electric cooking.¹² A particularly interesting finding was that on the researchers' repeat visit

to Kachin men explained that using electric kettles cause health problems, a statement that women disagreed with. Over time, cultural concerns and men's ownership over women's time may dissipate and there are substantive environmental and health benefits to reducing wood-fired cooking. However, electricity that would enable stove-top cooking was not the core concern of rural women and therefore should not be prioritized when positing people-focused energy solutions (and this change can arguably be generated more effectively through biofuel based cook-stoves).

IMPLICATIONS

The primary implication of listening to women's voices on electrification in Karen and Kachin, and of disaggregating male and female attitudes to and uses of electricity is to affirm the importance of lighting in women's lives. Lighting in the home enables children's reading, the creation of home-based businesses and safer cooking practices. Public lighting allows for unmolested travel, which can be crucial for care-work.

The same findings raise the need to question some of the perceived advantages of on-grid electrification, or at the very least foreground the need for electrification to be treated as a magnifier of the educational and economic benefits provided by other development initiatives. Improvements in school results and market access appear more achievable through a combination of lighting in the home and service and road infrastructure spending than an equivalent spend on national-grid electrification. More concerning is the fact that mono-grid and expensive diesel powered electrification have the potential to transfer significant wealth from the poorest, typically female, members of a community, to those who receive the benefits of higher voltage electricity, who are often wealthy men.

11. Khushk, W, Fatmi, Z White, M & Kadir, M (2005) Health and Social impacts of improved stoves on rural Women: A pilot intervention in Sindh, Pakistan *Indoor Air* 15(5)311-31

12. See Muneer, S and Mohamed E (2003) Adoption of biomass improved cookstoves in a patriarchal society: an example from Sudan *Science of the total environment* 307(1)259-266 for an example of this.



RECOMMENDATIONS

The Energy Master Plan, Government Energy Framework and future national energy plans need to be sensitive to the gendered nature of electricity usage and demand.

For women's health, safety and aspirations for their family, lighting in the home and public places is paramount – this should therefore be one of Myanmar's most important energy priorities.

Electrification committees have the potential to discriminate against women and marginalised members of the community – they therefore need more internal checks and compulsory women and minority representation. Metering can also help.

Many of the economic benefits of electricity, especially for rural and semi-rural Myanmar citizens, require infrastructure like roads and rural markets – a combination of lighting, infrastructural development and well-funded schools, clearly reflects men and women's development aspirations more effectively than large on-grid electrification.

Understanding demand and end usage aspects of electricity are important aspects of people centred energy policy.

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