

RESEARCH PEARLS | FEDU PEARL #5

In our series “Research Pearls” we are providing first-hand insights into our dynamic and powerful diaries research. In this edition we are focusing on the energy component of the research. In the baseline we got an overview of the most commonly used energy sources, both regarding lighting and cooking. The following presents the first few results.

Energy

Type of electricity connection

More than half of the baseline respondents are not connected to any electricity system. The Western region has the highest percentage of population connected to grid (30%). About the same amount of people across the different areas are connected to solar (15%).

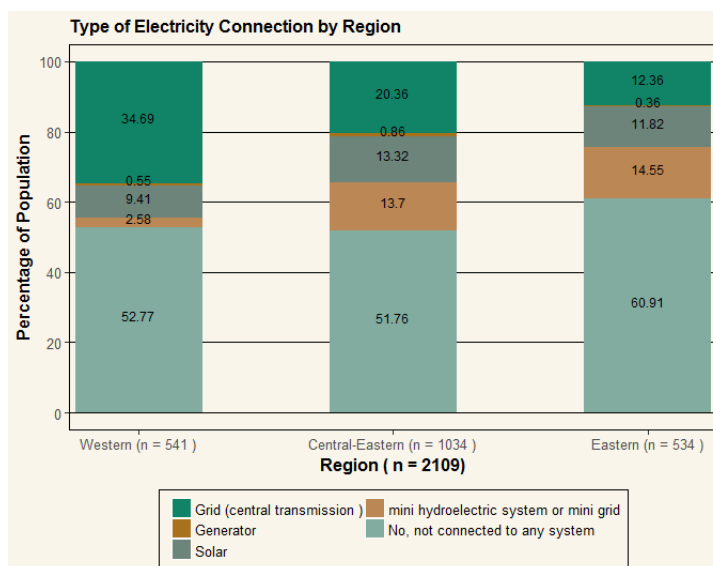


Figure 1: Type of electricity connection

Of those who are connected to some form of power, most are connected to grid only, followed by solar only. Rarely are they connected to both systems

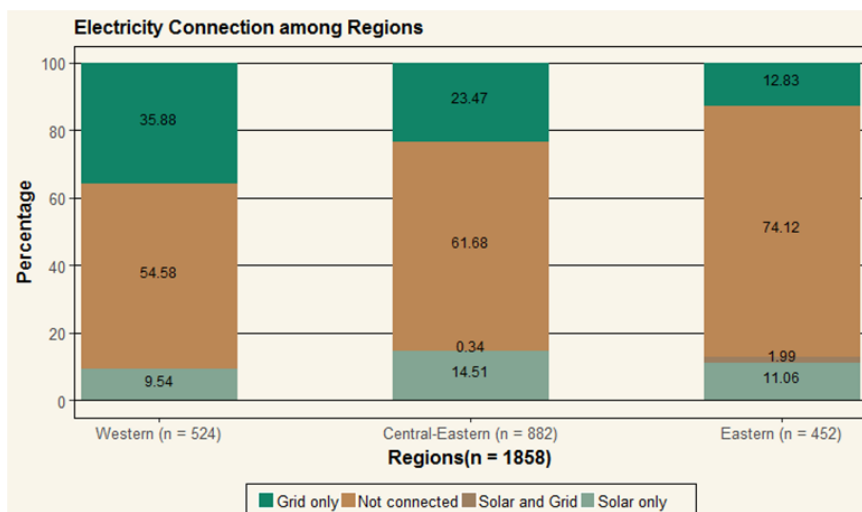


Figure 2: Type of electricity connection by region

Connection to power according to wealth bands

The following graph shows a clear connectivity pattern according to wealth level. As can be expected, the higher wealth levels are considerably more likely to be connected to some form of power, while the poorest wealth bands are rarely connected. The wealthiest groups are more likely to have both grid and solar (the light green band). However, there is still some 18% of the wealthiest, who have no form of power at all.

Of the 235 people connected to solar, that is about 10% of the total sample size, the poor and upper poor groups are the most likely to be connected to solar, followed by comfortable and ultra-poor.

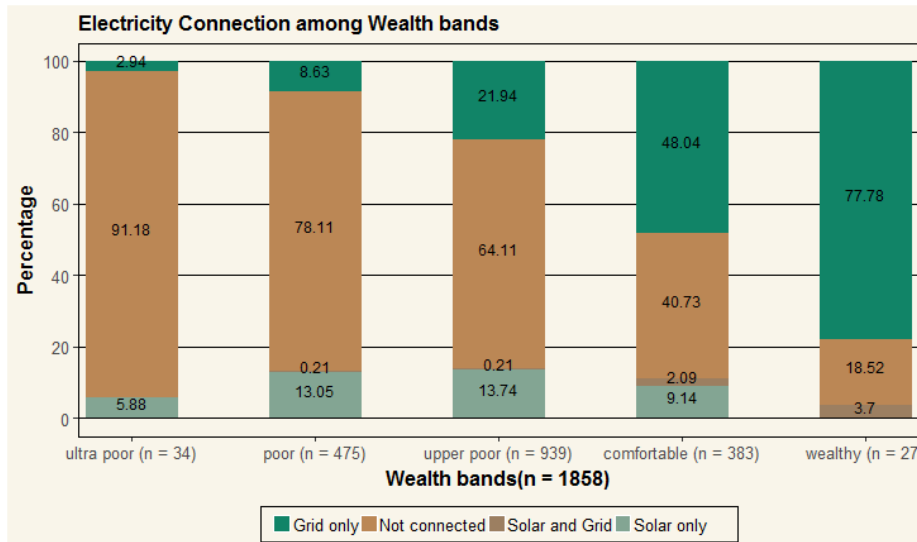


Figure 3: Electricity connection by poverty levels

Connection to power according to location (rural/urban)

There is also a significant difference between rural and urban areas. The majority of people living in rural areas are not connected to any electricity system while just over 50% of people living in urban areas are connected to electricity.

Solar is roughly as likely in urban as in rural areas.

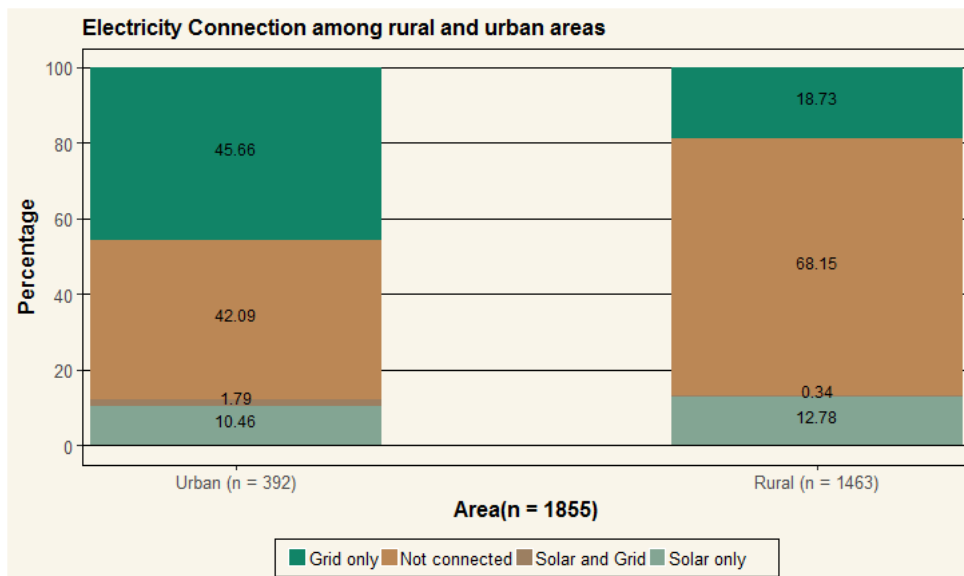


Figure 3: Electricity connection by poverty levels

Solar brands reported

The most common brands are Solar Now, Village Power and M-KOPA.

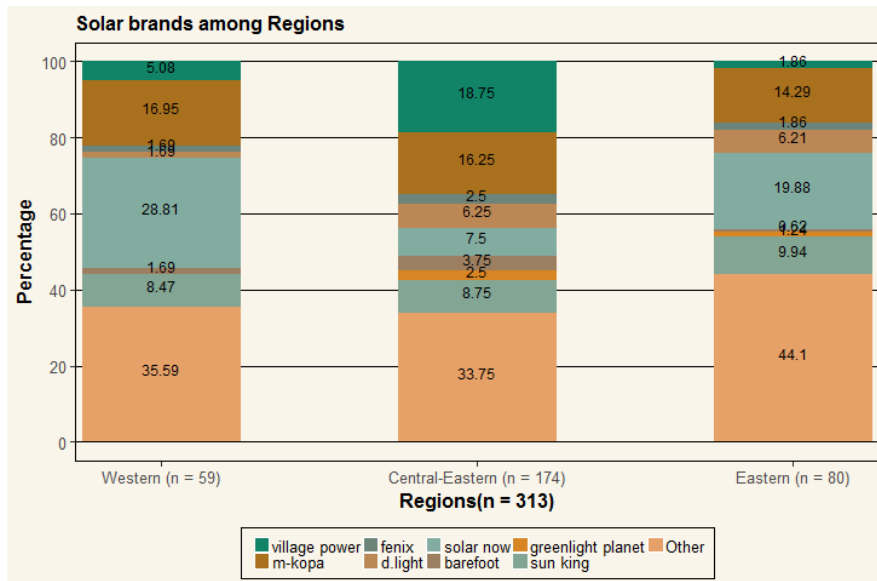


Figure 4: Popular solar brands by region

Cook stoves used

The type of cook stove used most is “open fire/3 stone fire”. While this is the most common cooking form across the four lower wealth bands, the incidence of using it declines as wealth increases. As compared to this, the higher the wealth band, the more likely is clay stove usage. Kerosene, LPG and electric stoves are only used by the highest wealth bands and are only a significant portion in the wealthiest band. Traditional metal stove and improved cook stove are also more common in wealthier groups, particularly in the last but one wealthiest group “comfortable”.

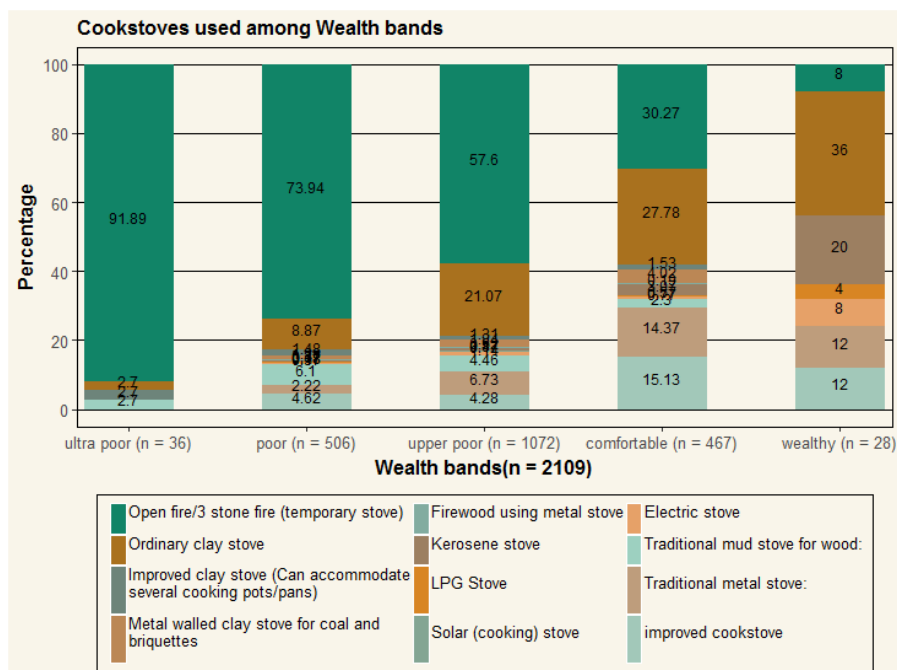


Figure 5: Cook stoves used by poverty level

Forms of recharging mobile phones

Most of mobile phone owners (45%) recharge their phone at home. Following this, 35% pay for charging their phone, while 20% recharge their phone out of their homes, but for free.

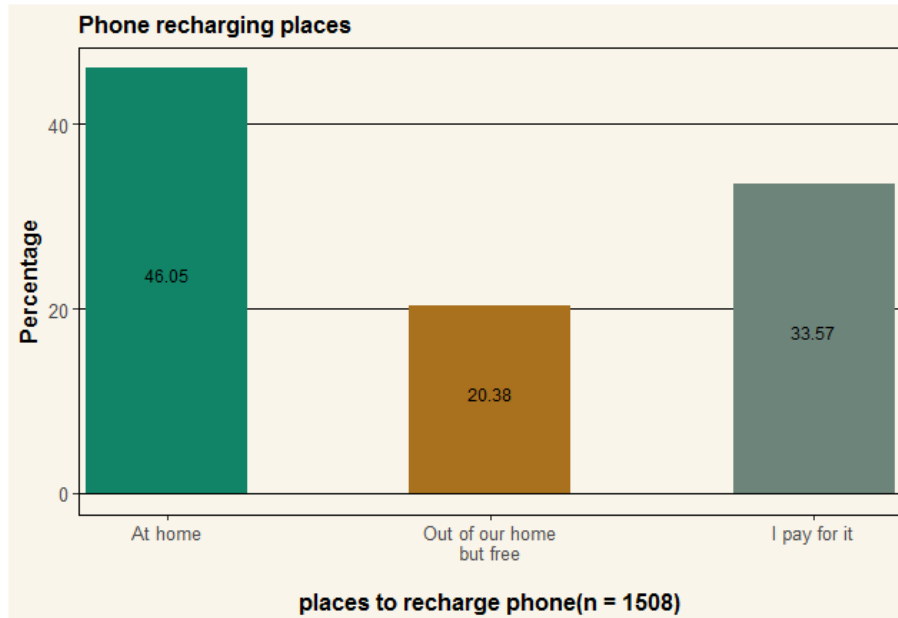


Figure 6: Phone charging forms

Costs of mobile phone recharging

Out of four types of energy used for charging phones (solar, generator, grid, battery) grid is the most expensive. Those recharging their phone using grid, pay on average 70 Ugandan shillings per charge. Solar costs on average 20 UGX per charge, while battery costs about 10 UGX.

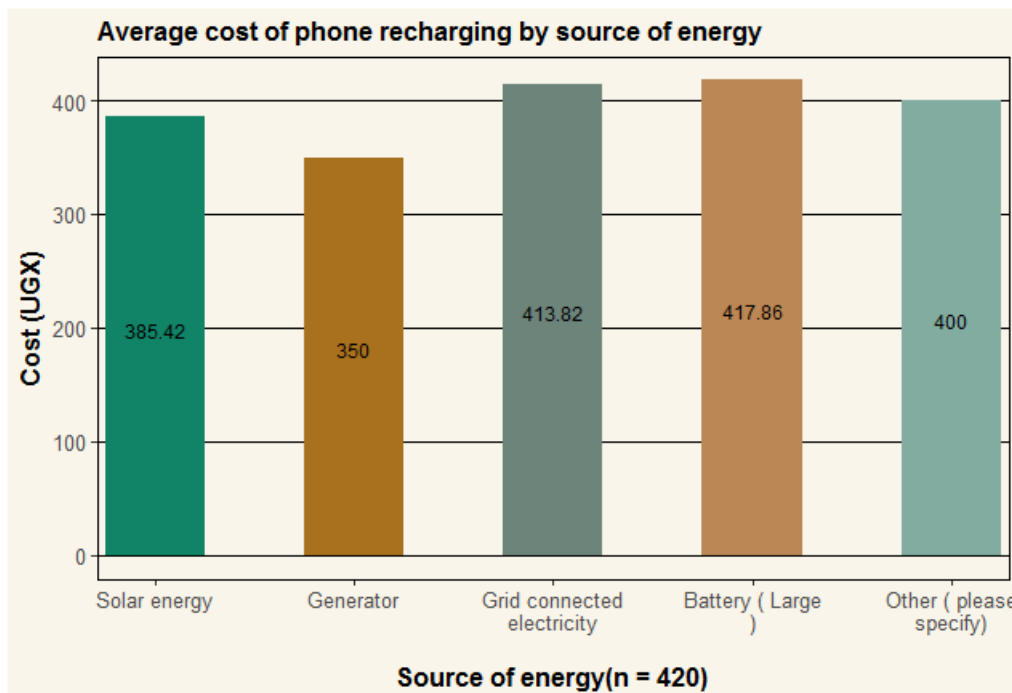


Figure 7: Kerosene usage according to wealth bands

Implications for service providers

This Research Pearl gives any energy service provider some basic data about people's access to energy and different energy usage. The most prominent finding is that access to energy is primarily dependent on the wealth band of the respondent, more so than on gender, location (urban/rural) or age. The strong differences according to wealth band were both found in access to grid, usage of kerosene and type of cook stove used. The poorest wealth bands have substantially less access to energy (10% are on grid in wealth band "poor" and "ultra poor" is even way below 10% against more than three-quarters having grid in wealth band "wealthy"). The poorest wealth bands are also dramatically more likely to cook on open fire, while richer wealth bands, mostly cook on clay stoves or other more efficient options. For those offering energy solutions, it makes therefore sense to focus strongly on the poorest segments of society, as there is a larger market. Even though these groups may be poor and less able to afford clean energy or efficient energy options, the portion of their income that they spend on energy is very high, hence they have the largest incentive to change.



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