

# RESEARCH PEARLS | FEDU PEARL #15

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, more specifically on the energy source “firewood”, which is still the most commonly used cooking fuel in low income communities. We will examine how means of obtaining wood, ease of access, as well as expenditures differ among wealth bands and rural / urban areas.

## Fanning the flame

Almost 600 people were asked over a period of six months on a bi-weekly basis about the types of cooking fuels. The most common form of cooking fuel was “wood”, which people reported to use during roughly two out of three interviews (65% of the interviews). The second most common form of cooking fuel used was “charcoal” which was indicated in 40% of the interviews. Only very few other cooking fuel types were reported (just 8% mentioned to cook on electricity, 6% on kerosene).

In 4% of the interviews it was recorded that no cooking fuel was used at all, presumably as they had not eaten cooked meals or eaten elsewhere.

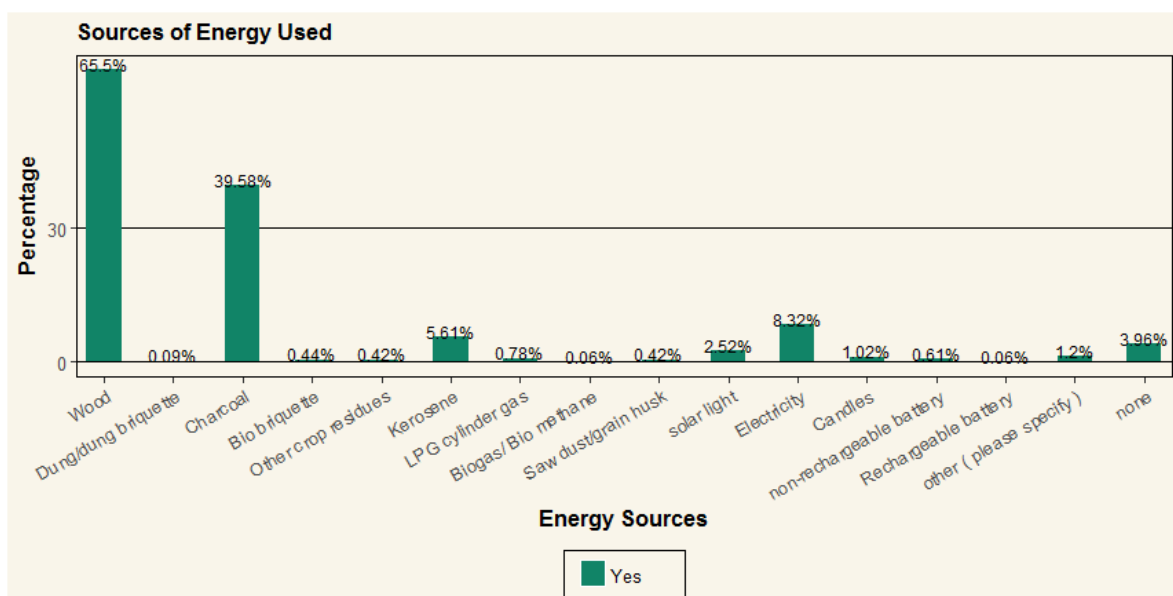


Figure 1: Sources of energy used

A strong relation was discovered between the wealth bands (based on the PPI scores) and whether wood was used for cooking or not.

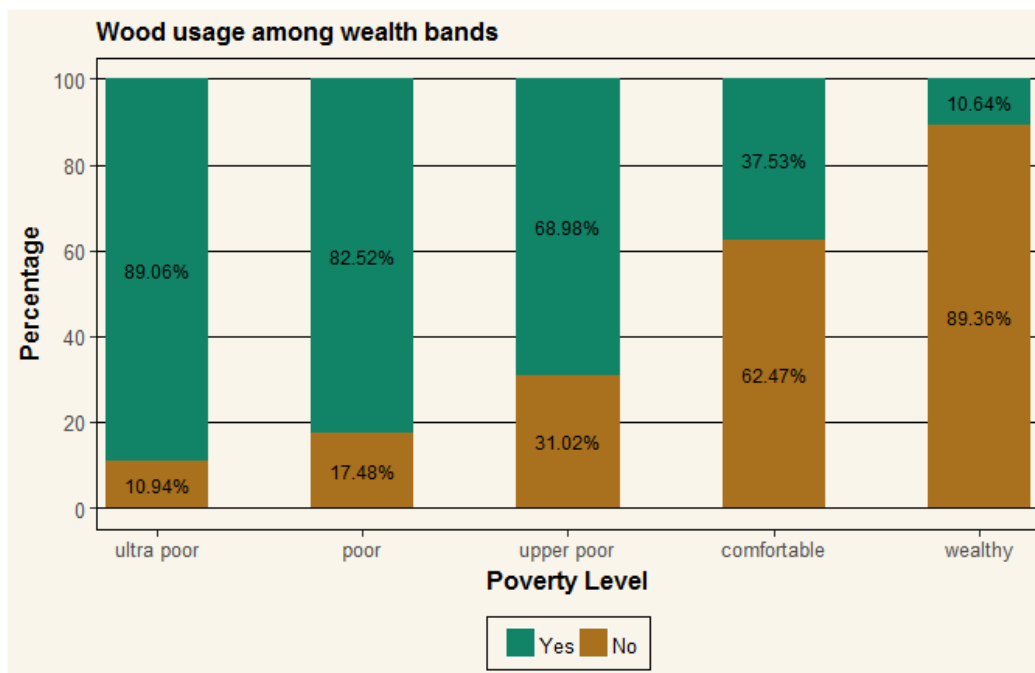


Figure 2: Wood usage among wealth bands

While the poorest two wealth bands reported to cook with firewood in 89% (ultra poor) and 83% (poor) of the cases, the comfortable and wealthy were much less likely to indicate wood as a cooking fuel (just 39% of the “comfortable” and 11% of the “wealthy”)

Similarly, a strong pattern exists between rural and urban areas in terms of using firewood for cooking.

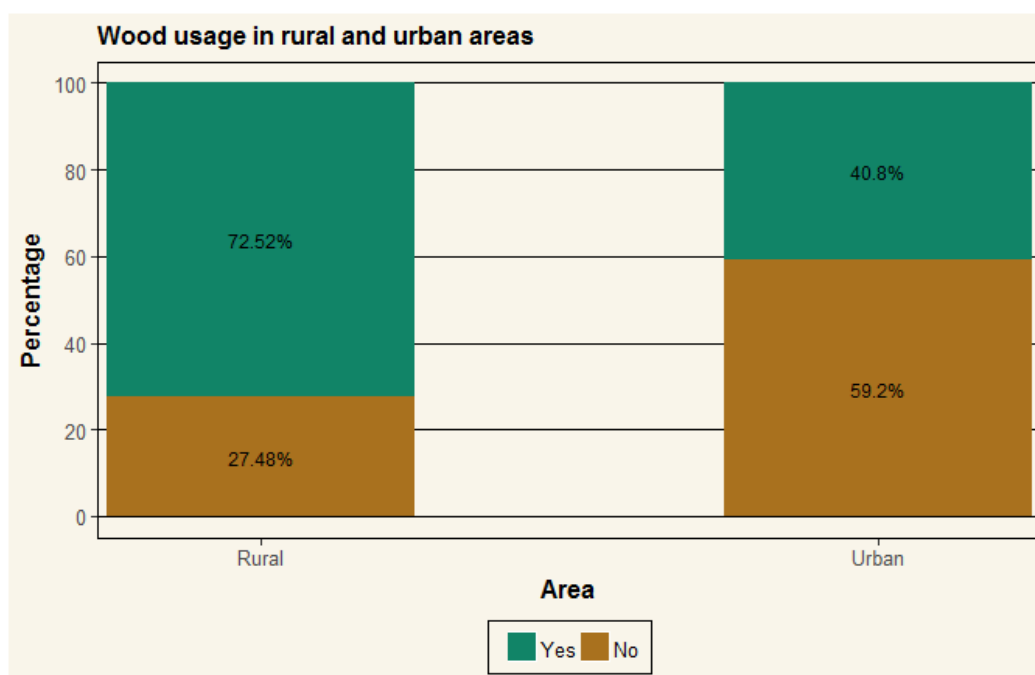


Figure 3: Wood usage in rural and urban areas

While respondents from rural areas were 72% likely to use firewood, for respondents from urban areas this is quite less common (41%).

Wood was primarily obtained through “gathering” (78%) against just 14% “bought”, 5% “produced” and 3% “given”. In this, there was also a mild trend according to wealth bands and locations, but not as strong as L-IFT expected. In summary, richer wealth bands are basically more likely to buy wood rather than gather it. Poorer wealth bands are more likely to produce wood.

Strangely enough, richer wealth bands are more likely to receive wood as a gift (while it is probably expected that wealthier people don’t need such a gift).

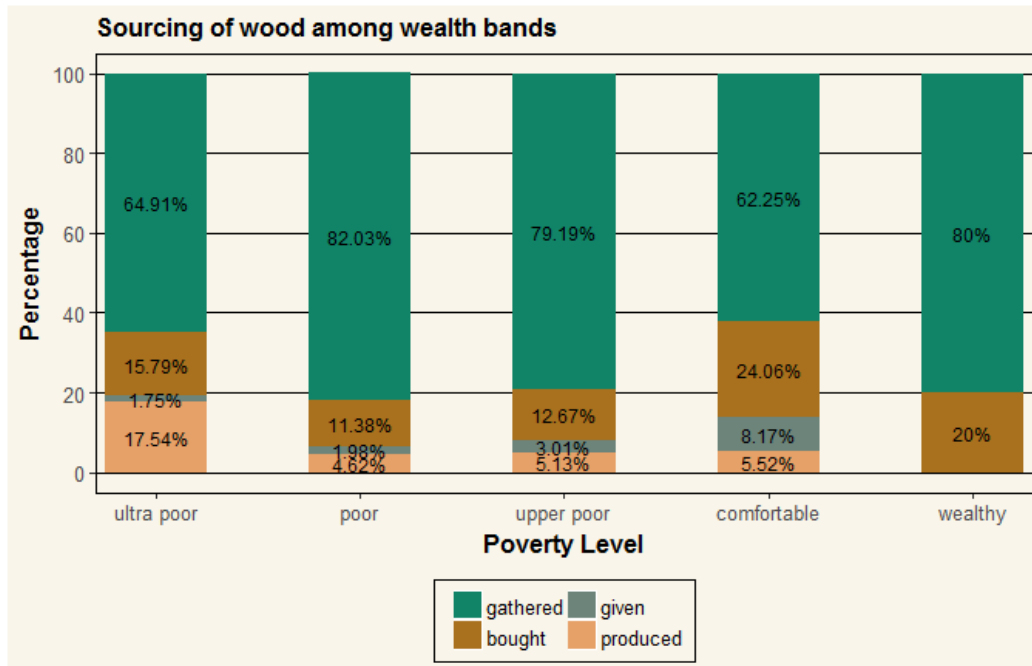


Figure 4: Sourcing of wood among wealth bands

Speaking about ways on how to obtain wood, there is also a difference between urban and rural locations, where urban people are more likely to buy wood and rural people more likely to gather it.

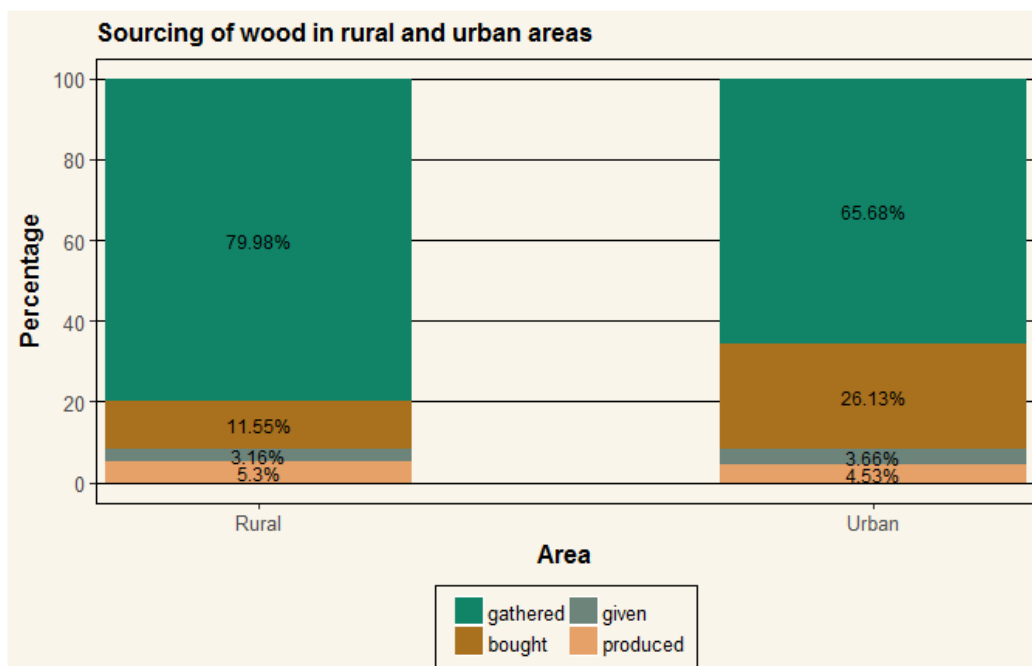


Figure 5: Sourcing of wood in rural and urban areas

Less than half of the respondents, who use wood as cooking fuel, felt that wood was “very easy” (16%) or “easy” (32%) to find. This means that roughly more than the majority finds it “neutral”, “hard” or “very hard” to get access to firewood. If leaving the small group of “ultra poor” out of consideration, then there is a clear trend according to wealth, whether accessing firewood is considered as easy or not. Within the wealthiest two groups more than half of their respondents stated “it is easy”/“very easy” to obtain fire wood. In the groups “upper poor” and “poor” roughly 45% find it either “hard” or “very hard” to get access to fire wood, against just 30% in “comfortable” and “wealthy” wealth bands.

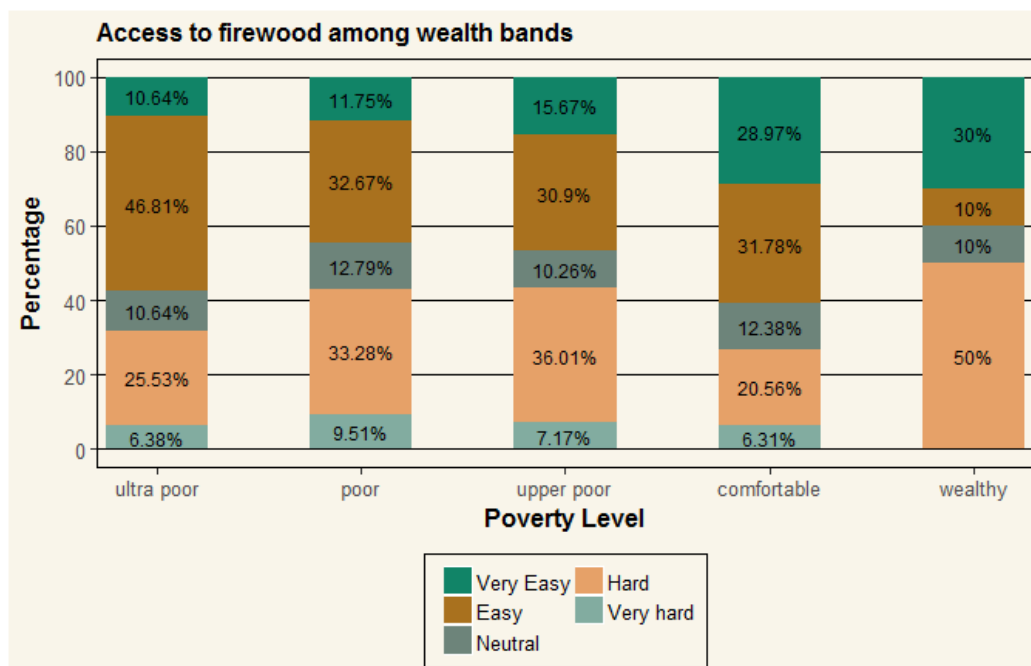


Figure 6: Access to firewood among wealth bands

There is also a slight but surprising trend in perceived ease to access to fire wood according to location. In rural areas more respondents find it “hard” or “very hard” to obtain firewood than in urban areas. One would expect it to be more difficult in urban settings, particularly for those who “gather” the wood, which is the case for the majority of the respondents in urban areas.

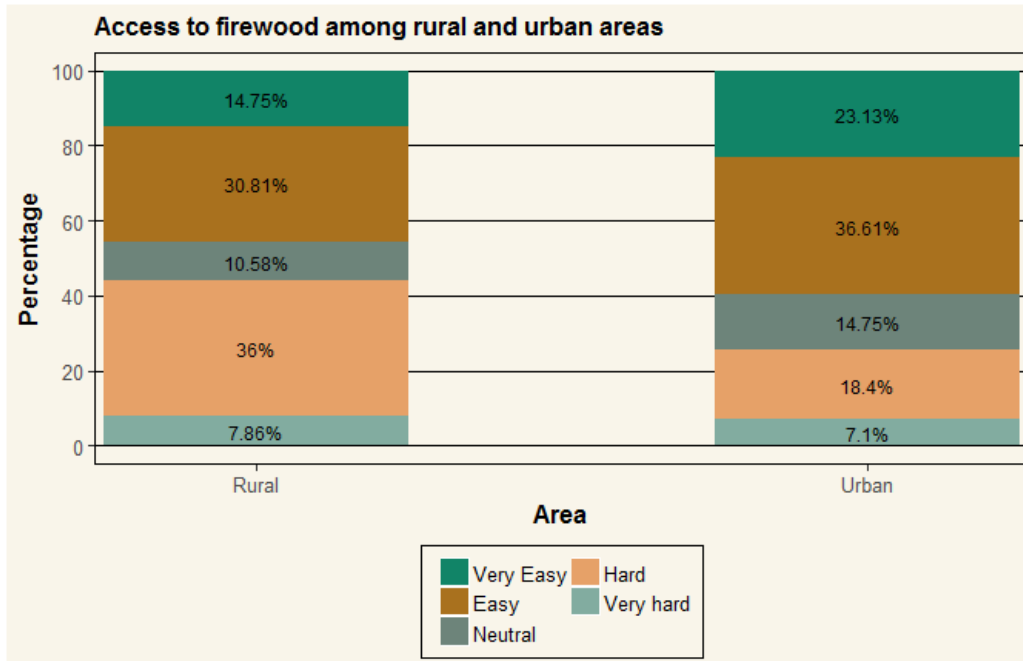


Figure 7: Access to firewood among rural and urban areas

Among those people who buy firewood, which was reported in 14% of the interviews, the median expenditure for two weeks is just over 2.50 USD, i.e. just over 1.25 dollar per week.<sup>1</sup>

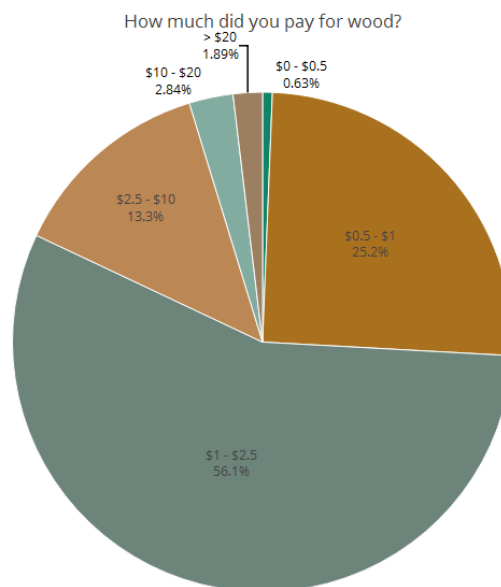


Figure 8: Expenditure on firewood

<sup>1</sup>This weekly amount does not necessarily say anything about total expenditure on firewood per year. It may be that a respondent only buys firewood during a couple of weeks. Total expenditure is something we need to investigate further.

### Some conclusions from these findings

First of all, we should recognize that the most common form of cooking fuel remains firmly to be wood, with charcoal as a runner-up. Other cooking fuel was practically absent.

Secondly, just over half of the respondents currently have no real perceived difficulties obtaining wood, so presumably their situation is not challenging enough (yet) to switch to other cooking energies.

In only 14% of the interviews, “buying” was indicated as the mean to access firewood. Hence, in the remaining 86% cases, respondents could obtain firewood without financial expense. However, when paying for firewood, costs are substantial within the total budget of our respondents, with half of the respondents paying more than the local equivalent of USD2.50.

A crucial finding is that among the wealth bands there is strongly diverging behavior. The two wealthiest bands typically do not use wood, while the two poorest bands practically rely on wood only. Remarkably, the poorest wealth bands almost spend the same amount of money on firewood, if they buy it. The poorer wealth bands are only a little less likely to buy wood.

The surprising finding is that urban and rural locations have quite similar firewood situations. Within urban locations firewood usage is less likely, however, in terms of acquiring means, they are practically as likely to “gather” it as it is the case in rural locations. The firewood prices in urban locations were also quite similar as compared to rural locations.

### What does this mean to improved cook stove businesses and alternative fuel producers

First of all, the poorer and wealthier segments of the population display distinct cooking fuel behavior; hence quite different messages to promote change will be needed. Differences between urban and rural areas, however, are much less pronounced than many may expect. These diaries data indicate that means to gather firewood from an urban location may be easier than many organisations assume.

At present only a minority face challenges to gather firewood, however, once firewood cannot be obtained the purchasing costs are significant. Hence, it makes sense to put a strong focus on those people who are buying firewood because they could make substantial savings. Particularly, the poorer wealth bands that buy firewood will arguably be sensitive to new forms of cooking fuels, as the expenditures must have a significant effect on their budget. However, those are also the wealth bands that cannot afford to invest in an improved cook stove through upfront payments.



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