Consumer Demand and Experience with Mera Gao Power in Barabanki, Uttar Pradesh

A Field Survey Report

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1. Introduction and Executive Summary

This report summarizes lessons from a field survey done in the Barabanki district in habitations that were sampled for a Columbia University research project on off-grid solar power. The focus of the report is on consumer demand and experience. We surveyed a random selection of 1,516 households in 98 habitations in the study area. Our hope is that the report can provide a clear description of MGP's current performance and, at the same time, help the MGP team improve the quality of their service. The key findings include the following:

- 19% of the surveyed households were subscribers.
- By far the most common reason for subscription was the improved quality of lighting. In contrast, mobile charging and fuel expenditures were much less important.
- The most common use of MGP lights was outdoor lighting.
- Overall, households were satisfied with MGP service. The main complaint was the behavior of MGP staff.
- Willingness to pay for additional services was low.

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2. Research Strategy

The goal of the overall project is to evaluate the socio-economic benefits of the MGP business model in villages of Uttar Pradesh. The project is essentially a randomized controlled trial. In some of the sampled habitations, Mera Gao Power (MGP) provided basic household electricity by installing a solar micro-grid. Households could purchase access to two bright LED lights and mobile charging by paying 100 rupees (USD~2) per month. The installation of an MGP solar micro-grid was assigned randomly in a field experiment. MGP offered installations to 48 habitations. In 25 of these habitations, there were enough households (~10) willing to subscribe for installation.

The survey was conducted in August-September 2014. A total of 1,516 randomly sampled households were surveyed. The surveys were administered by group:

- In habitations approached by MGP (48), actual subscribers were given a customer survey. The number of customers was 136.
- In habitations approached by MGP, non-subscribers were given an alternative survey for non-customers. The number of non-customers was 599.
- In habitations not approached by MGP (50), a separate “control” survey was given. The number of households in the control habitations was 781.

The questionnaires are attached as an appendix to this report.
3. Demand for Service

Among the 735 households that were surveyed in habitations approached by MGP, approximately 19% chose to subscribe to MGP service. These households were concentrated in 25 habitations, meaning that 23/48 habitations refused any service.

The reasons for subscribing to MGP service among subscribers are shown in Figure 1. As the figure shows, all subscribers said that they considered solar lighting superior to their prior alternative, kerosene. However, only 24% said they expected to save money, indicating that the MGP service is not cheap enough to allow significant cost savings over kerosene. Finally, 42% of the respondents said they valued the possibility of mobile charging. Only two respondents gave other reasons, one being the avoidance of kerosene fires and the other to improve children's education.

![Figure 1: Reasons for MGP Subscription](image)

Note: A total of 136 subscribers were allowed to pick multiple reasons for choosing the MGP service.

We also found that learning from other people's experience has not been an important consideration for the adoption decisions. Only 12% of respondents said they waited to see the quality of the MGP service before subscribing.

We also surveyed people who did not subscribe to MGP service, with a breakdown of important reasons shown in Figure 2. The most common reason for non-subscription was the cost of the service, with 28% of the respondents emphasizing this factor. For these villagers, the running cost of the MGP
service was prohibitive enough to decline the subscription offer. The second most common reason was a simple lack of interest, indicated by 22% of the population. The improved lighting and mobile charging simply was not a priority for these respondents. Other important explanations for non-subscription include wanting government light, MGP not offering them service, and satisfaction with their current quality (all about 10%). Around 9% of the villagers who did not subscribe to the MGP service said they had their own battery or source of lighting, and around 6% said they were too poor to subscribe.

Figure 2: Reasons for no MGP Subscription

Note: A total of 599 respondents were allowed to pick multiple reasons for not choosing the MGP service.
4. Customer Experience

Overall, customer experience with MGP service among subscribers was high, as shown in Figure 3. On a 1-5 scale, with lower values indicating more satisfaction, the mean response was 2.1, or slightly below “satisfied” and clearly above “neutral.” The responses to questions about the quality of mobile charging and customer service were virtually identical, suggesting that the overall satisfaction with the company among subscribers was high.

![Quality Satisfaction Chart]

*Figure 3: Satisfaction with MGP Quality*

The most important use of MGP lighting was outdoor illumination, as shown in Figure 4. Of the 136 respondents who subscribed, 96 (71%) said the primary use of MGP lights was for outdoor. Here, it is notable that MGP offers two lights. According to the fieldwork, households often used one light outside and the other inside. While there was a lot of variation in indoor use, outdoor lighting was a shared priority among more than two-thirds of the sample. Another 19% emphasized cooking, while the rest emphasized either children's studies or reading in general. Since some households also cooked outside, it is likely that some of the outdoor use contributed to improved cooking.
Most customers also said they would recommend MGP to friends and family. Of the 136 respondents, 116 (85%) said they would offer a positive recommendation. Equally important, 55% of the respondents found the pricing of MGP service appropriate while a minority of 45% considered the cost too high.

We also requested open-ended comments from the customers. The most common comment was a complaint about the MGP workers, whose service and behavior were not considered adequate by 37% of the subscribers. So, while MGP service overall was considered good, the behavior of the staff was frequently criticized by the subscribers.
5. Willingness to Pay for Additional Services

We asked current MGP subscribers the amount they were willing to pay for additional services like fan and television. A majority of respondents (56% for fan and 82% for TV) said that they would not pay any extra amount for these additional services. This is reflective of the general perception that the cost of MGP’s service is already high. That said, there were subscribers who were willing to pay more for a fan and a television, and would spend on average around Rs 67/- more per month for a fan and around Rs 56/- more per month for a television.

We also asked those who did not take up MGP service the amount they were willing to pay for the basic MGP 2 lights and 1 mobile charging service as well as additional services like 4 lights and 2 mobile charging services, fan and television. The majority of the respondents (59%) said that they would not pay for the MGP service. Among those who were willing to pay would spend, on average, around Rs 18/- per week for the basic service. A vast majority of non-subscribers said that they would not pay for either the 4 lights or the 2 mobile charging services (80% for the lights and 88% for mobile charging). Only 11% were willing to pay for both services and would spend around Rs 13/- per week for them. These numbers suggest that demand for both MGP and additional services is fairly low in the area and even what those who are willing to pay would spend is about 40 percent lower than current MGP rates.

Around 78% of non-subscribers said that they would not pay anything additional for a fan; this number increases to 89% for a television. Only 14% are willing to pay for both services and would spend, on average, around Rs 18/- per week for them.
6. Conclusion

The results from this survey provide insights into MGP service. The most important reason for subscription is improved quality of lighting, as opposed to savings of fuel expenditure. While only one-fifth of the targeted households have subscribed, overall satisfaction with service is good. Most people find the service provided useful and consider the pricing appropriate. Willingness to pay for additional services is low, indicating that MGP is offering an appropriate package (lighting, mobile charging) to these households.