**Appendix A**

Table 1. Definition and descriptive statistics of variables used in the model

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variable | Measurement | Mean | Std. dev. | Min. | Max. |
| *Household* |  |  |  |  |  |
| District | VDC=1, municipality=0 | 0.44 | 0.50 | 0 | 1 |
| Sex | Male=1, female=0 | 0.53 | 0.50 | 0 | 1 |
| Household size  | Number of people | 5.15 | 2.43 | 1 | 22 |
| Monthly income (Personally) | Amount in NRs  | 12,579  | 13,524  | 0 | 120,000  |
| Monthly income (Family) | Amount in NRs | 35,674  | 22,833  | 5000 | 120,000  |
| Education | High school and above=1, below high school=0 | 0.45 | 0.50 | 0 | 1 |
| Child (age 6–14 years) | Yes=1, No=0 | 0.57 | 0.50 | 0 | 1 |
| Own meter  | Own meter =1, otherwise=0 | 0.86 | 0.35 | 0 | 1 |
| Prior notice on outages | Prior notice=1, otherwise=0 | 0.49 | 0.50 | 0 | 1 |
| Frequency of planned power outage | Number of times per day | 2.1 | 0.68 | 1 | 16 |
| Maximum duration of planned power outage | Number of hours | 5.86 | 3.09 | 1 | 18 |
| Frequency of unplanned power outage | Number of times per day | 2.85 | 1.35 | 1 | 9 |
| Maximum duration of unplanned power outage | Number of hours | 2.32 | 2.55 | 1 | 25 |
| Monthly expenditure on electricity | Amount in NRs  | 601.55 (5.67) | 854.06 (8.06) | 30 (0.28) | 8000(75.47) |
|  | Sample size | 1,800 |  |  |  |
| *Business* |  |  |  |  |  |
| District | VDC=1, municipality=0 | 0.19 | 0.39 | 0 | 1 |
| Annual turnover | Amount in NRs  | 203,347,819(1,918,375) | 333,962,288(3,150,588) | 150,000(1,415) | 5.E+9 (47,169,811) |
| Main activity | Industry/manufacturing=1, services=0 | 0.58 | 0.495 | 0 | 1 |
| Permanent workers | Number of people | 71.17 | 183.14 | 1 | 2700 |
| Own meter  | Own meter=1, otherwise=0 | 0.89 | 0.31 | 0 | 1 |
| Maximum duration of planned power outage | Number of hours | 6.68 | 3.34 | 1 | 18 |
| Frequency of planned power outage | Number of times per day | 1.35 | 0.90 | 1 | 5 |
| Maximum duration of unplanned power outage | Number of hours | 0.94 | 0.25 | 0 | 1 |
| Frequency of unplanned power outage | Number of times per day | 2.86 | 1.42 | 1 | 10 |
| Prior notice on outages  | Prior notice=1, otherwise=0 | 0.70 | 0.46 | 0 | 1 |
| Monthly expenditure on electricity | Amount in NRs  | 296,603(2,798) | 684,402(6,457) | 614(5.8) | 7,000,000(66.037) |
|  | Sample size | 590 |  |  |  |

Note: NRs, Nepalese rupee.

The average exchange rate of 106 NRs/US$ for 2016 (Central Bank of the Nepal, https://www.nrb.org.np/ accessed 20 September 2017).

Table 2. Coping costs by type averaged over all households in NRs/month

|  |  |  |  |
| --- | --- | --- | --- |
| Coping type | Average monthly coping cost (NRs)(1) | Proportion of households using each coping type(2) | Components of average coping cost (NRs)(3) |
| Solar panels | 186 | 0.165 | 30.69 |
| Inverter | 856 | 0.191 | 163.50 |
| Voltage stabilizers | 127 | 0.104 | 13.21 |
| Generators | 707 | 0.001 | 0.71 |
| Shared generators | 220 | 0.002 | 0.44 |
| Fuel | 417 | 0.001 | 0.42 |
| Kerosene  | 149 | 0.136 | 20.26 |
| Emergency light | 55 | 0.477 | 26.24 |
| Torch light | 53 | 0.452 | 23.96 |
| Dry cell batteries | 187 | 0.095 | 17.77 |
| Candles | 123 | 0.208 | 25.58 |
| Solar lantern | 24 | 0.010 | 0.24 |

The average exchange rate of 106 NRs/US$ for 2016 (Central Bank of the Nepal, https://www.nrb.org.np/ accessed 20 September 2017).

Table 3. Average monthly coping cost by type of business size in NRs/month

|  |  |  |  |
| --- | --- | --- | --- |
| Coping type | Small business (n=249) | Medium business (n=214) | Large business (n=98) |
| Solar panels | 24.95 | 102 | 65 |
| Inverter | 2,260 | 4,254 | 11,717 |
| Voltage stabilizers | 4,486 | 8,479 | 17,419 |
| Generators | 6,019 | 16,525 | 60,476 |
| Shared generators | 94.18 | 0.00 | 2,326 |
| Fuel | 17,407 | 58,266 | 263,168 |
| Kerosene (mainly lighting) | 1.45 | 0.00 | 0.00 |
| Emergency light | 5.22 | 4.86 | 5.41 |
| Torch light | 5.45 | 10.77 | 14.62 |
| Dry cell batteries | 0.52 | 4.92 | 4.34 |
| Candles | 0.60 | 0.93 | 2.04 |
| Solar lantern | 3.07 | 1.25 | 0.00 |

The average exchange rate of 106 NRs/US$ for 2016 (Central Bank of the Nepal, https://www.nrb.org.np/ accessed 20 September 2017).