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Two years ago, in his Independence Day speech, Prime Minister [Narendra Modi](#) promised to provide electricity to the 18,500 villages, which did not have electricity then, in 1,000 days. This Independence Day he highlighted that more than 14,000 have been electrified since then. While 99.5 per cent of our villages are deemed electrified, a fifth of the country's population still awaits an electricity connection and many more suffer due to poor power supply. Hence, the government has moved beyond village electrification to 24x7 power for all by 2022.

The central government has set out this ambitious goal by focusing on household electrification and reliable power supply. As per the Ministry of Power statistics, 43 million Indian households are yet to be electrified. India will take nearly 20 years to electrify the existing unelectrified households if it continues with the current rate of household electrification, about 2 lakh households per month. In order to achieve the target by 2022, we need to increase the rate of household electrification by at least four times. However, even if we manage to achieve the feat, providing 24x7 electricity will remain a problem.

In 2015, the Council on Energy, Environment and Water in collaboration with Columbia University conducted the largest energy access survey of its kind in India, ACCESS, covering 714 villages in six major rural electrification deprived states - Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Odisha and West Bengal. The study showed that an electricity connection does not guarantee electricity access. Fifty per cent of the electrified rural households across these six states did not receive even 12 hours of supply in a day. The situation was much worse in UP, Bihar and Jharkhand, with three-quarters of electrified households receiving less than 12 hours of supply in a day.

Similarly, during evening hours, particularly important for basic lighting needs, half of the electrified households received less than three hours of supply. No surprise that a third of electrified households in these states still rely on kerosene as their primary source of lighting. Reliability and voltage instability are also major challenges.

A majority of these challenges pertain to the operations and performance of state electricity distribution companies. Challenges in infrastructure planning, deployment, as well as maintenance lead to unreliable and poor supply at the local level. Thirty per cent of the rural electrified households in the six states did not have electricity supply for 24 hours on more than four days a month. This indicates a frequent breakdown of the infrastructure as well as delays in repairing them. Only about half the electrified households in the six states had a metered connection, with the situation much worse in UP that had only 15 per cent metered connections.

Unmetered connections with flat fees provide no incentive for households to be judicious about energy consumption, discouraging distribution companies to supply reliable power. DISCOMs in these states often struggle with limited or non-performing staff to effectively operate and maintain services in rural areas. A fourth of the metered households either received either a fixed bill or no bill at all, indicating that DISCOMs did not have the capacity to read meters and generate bills regularly. Electricity theft and payment defaults pose further challenges for the DISCOMs.

We need innovative solutions to address the electricity access challenges posed by rural India. Village-level entrepreneurs could be contracted to operate and maintain the local distribution while generating bills and collecting revenues from the customers. Banking on community relationships, these entrepreneurs could improve compliance on payments as well as curb stealing of power.

Recruiting and training local youth could help address maintenance issues. This will also help in creating more skilled jobs and entrepreneurs in rural areas. Pre-paid and smart metering systems are other ways to encourage payments. Many such solutions need to be piloted and tested.

As the government races to meet the 2022 target, it must also focus on designing robust and innovative tools to measure and monitor the progress on a multi-dimensional level, rather than just counting the number of connections. A new India should also embrace a new electricity system, built on the smart technologies and decentralised approaches offering resilience, flexibility, and above all, inclusiveness.

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