100% rural electrification is not enough

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A version of this article was published by Hindu Business Line on March 27, 2019.

Rural electrification – need to start a national supply drive

As this article goes to press, it is highly likely that the central government is about to declare that all houses in India have electricity connections. As per the latest reports on Saubhagya website, only around 20,000 houses in Chhattisgarh remain to be connected. Even though it has taken seven decades after independence to reach this milestone of 'electricity connection for all', it is indeed a moment to celebrate. This is the outcome of the central government connection drive that started in 2005, and continued with high political commitment at the central and state levels. But while we celebrate, it is also necessary to register that this is just a good beginning and not an end of the efforts to provide universal electricity supply.

The connection challenge can be overcome through a one-time concerted drive lasting a few years. But for improving quality of life and to aid economic activities, it is essential to ensure affordable, sufficient electricity supply, consistently delivered with good quality and supported by good service, to households, enterprises and community services.

This supply challenge is vastly different from the connection challenge. Though there is a stated political commitment to 24x7 electricity supply, significant efforts are needed to ensure this, especially to small consumers. This has largely been neglected in the rush to reach household connection and village electrification milestones. It is presently managed by cash-strapped distribution companies who have no financial incentive to supply to rural poor areas.

We propose a supply-focussed rural electrification drive to overcome this. This drive is necessary to accelerate the transition away from the current poor levels of supply and service. Once there is note-worthy improvement, there will be pressure from consumers to hold the distribution companies accountable for supply quality, and this momentum will sustain itself.

Households – beyond connections

As the focus has been on connections, there is limited data on problems with electricity supply quality. Available data indicate that metering, billing and payment complaints dominate the list. There are inordinate delays in issuing bills for newly connected households, mistakes in bills, meter faults and difficulties in bill payments. Delays or mistakes in bills lead to very high bills, which small consumers find tough to pay, thus leading to disconnection.

The second complaint is about power outages and the long-time taken to restore supply. Government reports indicate 16 to 24 hours of supply in rural areas. Consumer surveys and sample measurements report much lower hours. One recent survey by SmartPower reports that half the households experience 8 hours of power cut in a day and nearly half the rural enterprises use non-grid supply options. The nationwide village survey Antyodaya, by the rural development ministry in 2017, indicates that only half the villages get more than 12 hours of supply. Data from Prayas's Electricity Supply Monitoring Initiative, from 200 monitors across 23 states, show that half the locations experienced outages of more than 15 hours per month and 2-4 interruptions per day in rural areas. There are also concerns about low or high voltage, leading to appliance damage.

Enterprises and community services

Other than homes, rural electrification should also ensure access to agriculture, small business and community services like street lighting, schools, anganwadis, health centres and drinking water supply. Agriculture gets only 7-8 hours of supply in most states, mostly during the night, with frequent interruptions. Frequent interruptions also discourage operation of commercial enterprises in rural areas. Revenue of the distribution company can increase only if more such consumers use electricity. Before the consumers lose faith in the grid supply, it is necessary to take steps to improve the quality of supply.

Government surveys report that in 2017, 40% of schools and 25% of health sub-centres do not have electricity connections. Now that all the households are connected, there is a need to take up connection drives to cater to such consumers. It is also necessary to enhance the rural distribution infrastructure, which in many cases is just sufficient to meet household demand.

Connection drive over, now the need is for a supply drive

The central government should not withdraw once all houses are connected to the grid. There is a need to track post connection parameters like issue of first bill, hours of supply, distribution transformer failure rate and growth of non-domestic consumer connections. Scope of the Integrated Power Development Scheme (IPDS), which is presently urban focussed, should be extended to rural areas. Power from stranded generation capacity, depreciated plants and unutilised capacity can be provided at concessional rates to distribution companies for reliable supply in designated rural areas. This will be a well-deserved rural development investment.

State distribution companies could improve metering & billing and deploy bill payment centres with support from panchayat offices, post offices or health centres. Complaint procedures can be simplified through mobile applications and public hearings. Speedy redressal of complaints require management attention and provision of adequate operation & maintenance resources. Distribution companies should be financially penalised by the regulatory commissions for poor quality of supply. To promote economic activity, small enterprises with consumption of 200 to 300 units should be assured affordable tariff.

For agriculture, as we had written in these columns (20/12/2018), the solar feeder approach, with a small solar plant providing day time supply to all the pumps on a 11 kV

feeder, is the best option for reliable, affordable agriculture supply. For community facilities like health centres where reliable supply is crucial, schemes to deploy small kW size solar plants with battery backup could be economically feasible and scalable. These could also be grid connected to optimise battery capacity.

Technology led Initiatives like pre-paid meters, smart meters and direct benefit transfer should be attempted as pilot projects under different geographic situations and business models. These should be scaled up only after rigorous analysis of lessons from such pilots.

A supply drive organised by the central government, with active participation of states can ensure that the current electrification efforts lead to rural development.

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