



Implementation of electrification in rural India

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DESCRIPTION

Expanding electrification and scaling up electric power services is essential to each the economic and social development of India. The current nation of electricity services throughout India can be stated to be acute, if not in a crisis mode. The instant manifestations of this crisis are intense shortcomings in: a) access to electricity for rural and urban poor, b) generation capacity that can't meet peak demand and c) reliability of supply, in the phases of predictability of outages and excellent of energy supply. National statistics tell a story of problems afflicting generation, transmission and distribution of electricity. Shortages in energy demand and peak power demand have been around 8% and 12% on average between 2000 and 2003. Industry, farmers and households have invested in a substantial amount of equipment and capital in the form of captive power plants, generators, inverters and voltage stabilizers to address issues of supply and its quality. India, with an average annual per capita electricity consumption of 400 kWh, is far behind countries such as China (900 kWh), Malaysia (2500 Kwh), and Thailand (1,500 kWh) (Cook, 2011).

While large-scale reforms have repeatedly been attempted in the past, India's achievement in the field of rural access to electricity leaves much to be desired. India is home to 35% of the global population without access to electricity and only 44% of all rural Indian households are electrified. According to the 2001 Census, 6.02 crore households use electricity as the primary source of lighting out of a total of 13.8 crore households in the country (Dinkelman, 2011). Transmission and Distribution (T&D) losses in India have risen from 25% in 1997-1998 to around 30% in 1999-2000. In countries such as China, Malaysia, and Thailand, they are less than 10%. The State Electricity Boards (SEBs) that bear primary responsibility for distribution face irregularities in billing

and rampant theft of electricity. It is estimated that of the total power. Generated, only about 55% is billed, and around 41% is realized (Khandker, et al. 2021). Cost recovery has declined from 82% in 1992-1993 to 69% in 2001-2002. The loss per unit of power sold increased from 23 paise in 1992-1993 to 110 paise in 2001-2002. It is ironic that over the period 1991-1992 to 2001- 2002, when so many reforms were introduced, the gross power subsidy to agriculture, domestic consumers, and on inter-state sales has increased by 364% (or 4.6 times) from Rs.7,449 crores to Rs. 34,587 crores (or about 1.5% of India's GDP). While just about every person concurs on the end point, (restoring the economic health of the SEBs and power utilities, improvement in technology capacity, and reducing T&D losses) how to tread the narrow and tough political path to achieving that goal remains a challenge (Lee, et al. 2020).

CONCLUSION

Both the Government of India planning commission's strategy for the development of rural India in addition to the United Nation's Millennium Development Goals (MDGs) for the following ten years are inherently depend on the integration of electricity services to achieve a set of various improvement goals. Viable and reliable electricity services result in improved productivity in agriculture and labor, development in the delivery of health and education, access to communications (radio, telephone, television, mobile telephone), improved lighting after sunset, facilitating the use of time and energy saving mills, motors, and pumps and increasing public safety through outdoor lighting. Rural electrification at a household level provides at the very minimum services such as lighting and communications (e.g. radio/television) and can increasingly meet the aspirations of the rural populations to own other household appliances. Household electrification also increases the likelihood that women will read and earn income.

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