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June 2018

Online at <https://mpra.ub.uni-muenchen.de/87170/>
MPRA Paper No. 87170, posted 13 Jun 2018 13:47 UTC

Powering India at Household Level State Effort, Issues and Concerns

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In 2015-16, India's per capita electricity consumption has been 1,075 kwh. It has grown annually at 5.46 percent during 2005-06 to 2015-16 period. Besides large population, limited generation capacity utilisation and power utility's commercial inefficiency affecting its operational dynamics, a key factor has been the sluggish pace of rural electrification. Till today even after 70 years of independence, India could not attain 100% village electrification status even by State's own limited definition.ⁱ However, out of 18,452 un-electrified villages targeted by Hon'ble PM Narendra Modi on August 15, 2015, now 2,842 inhabited villagesⁱⁱ are left that the government aims to electrify soon.

In fact, the Indian State has been largely concerned about electrifying rural India and it has made significant interventions, from time to time, to attain this goal (see Table 1).

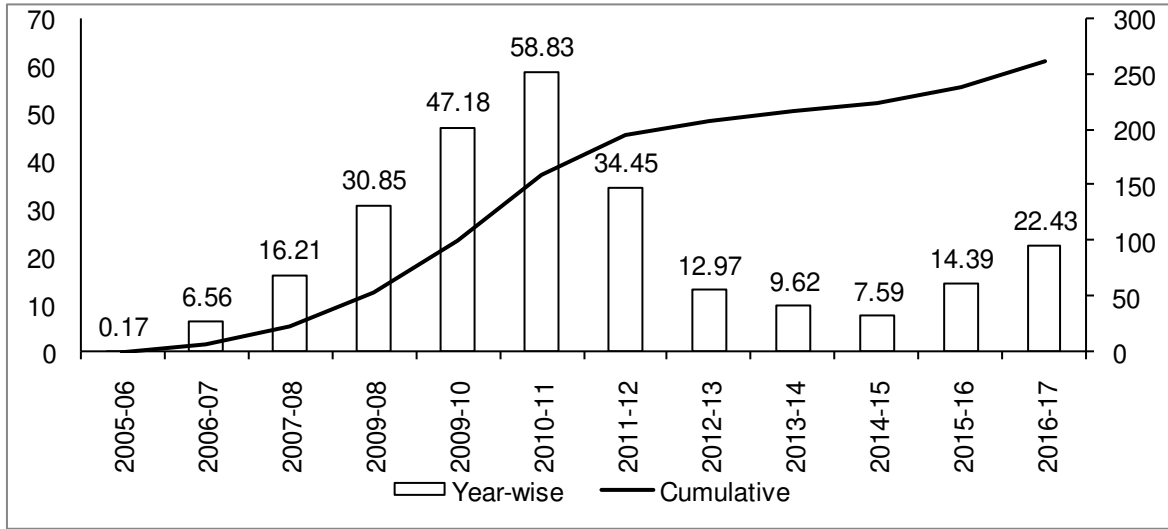
Table 1: Significant State Interventions to Promote Rural Electrification

Year	Intervention
1969	Setting up of Rural Electric Corporation
1974	Launching of rural electrification under Minimum Needs Programme which was introduced in first year of the 5 th Five Year Plan (1974-78)
1988	Kutir Jyoti Programme
2001	Remote Village Electrification Programme launched by Ministry of New and Renewable Energy (MNRE)
2001	Rural Electrification Component was added to Pradhan Mantri Gramodaya Yojana
2003	Accelerated Rural Electrification Programme (AREP)
2004	Accelerated Electrification of One Lakh Villages and One Crore Households
2005	Introduction of Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY)
2009	Decentralised Distributed Generation Scheme under RGGVY
2014	Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)
2017	Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)

Source: Based on various web sources

In fact, *Rajiv Gandhi Grameen Vidyutikaran Yojana* (RGGVY), introduced in April 2005, has been a key intervention that aimed at electrifying all un-electrified villages / habitations. Besides conventional modes of electrification, it also relied on non-conventional energy sources under Ministry of New and Renewable Energy's 'Remote Village Electrification Programme'. This scheme continued till the incumbent Modi government rechristened it as *Deen Dayal Upadhyay Gram Jyoti Yojana* on July 25, 2015.

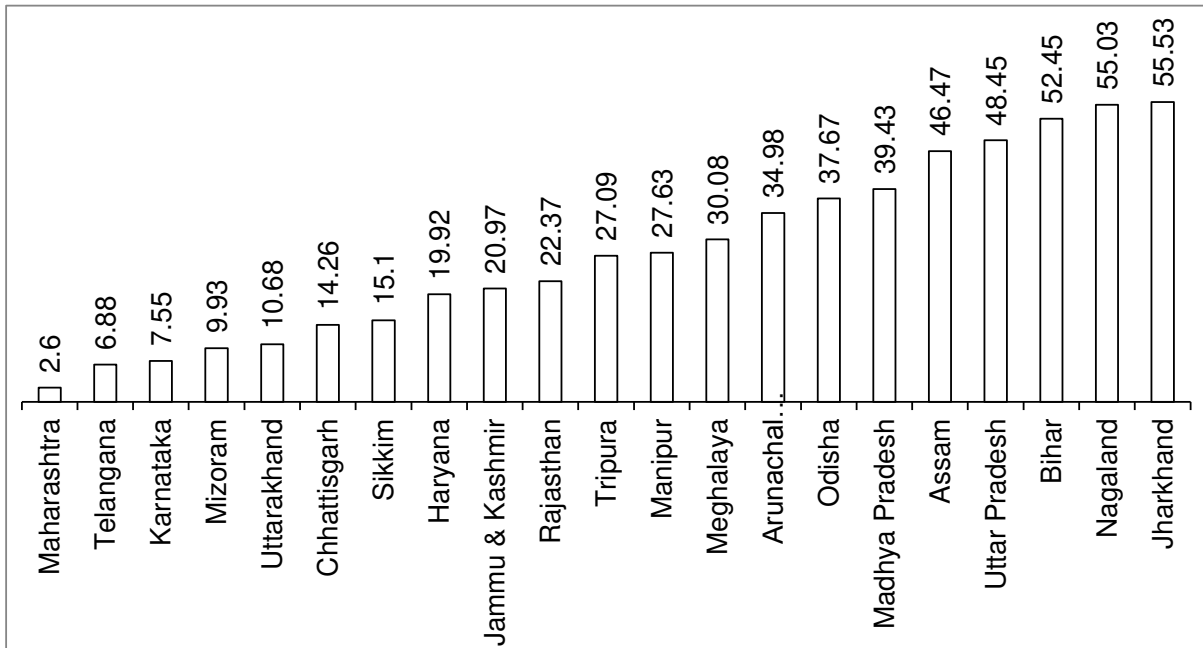
Figure 1: Year-wise Number (in Lakhs) of Electrified Rural BPL Households



Source: Based on GoI (2013) and Nair (2017)

RGVY remained in operation for 10 years. Figure 1 reports its year-wise and cumulative trend in electrification of rural BPL households. Its annual performance was at peak in 2010-11 beyond which it recorded slow performance. The pace of BPL household electrification got further momentum with DDUGJY in 2015-16.

Figure 2: Share of Un-electrified Households in Total Households



Source: GARV dashboard (<https://garv.gov.in>), accessed on October 8, 2017

However, a lot of progress is to be made. As per GARV dashboard, out of a total of 17.93 crore rural households, 13.89 crore are electrified and 4.04 crore are to be electrified which accounts for 22.53 percent of the total households. A majority of the un-electrified households are in the states of Jharkhand, Nagaland, Bihar, Uttar Pradesh, Assam, Madhya Pradesh, Odisha and Arunachal Pradesh where their share is more than 30 percent (Figure 2).

In fact, it has been the unaffordability of BPL households to get new electricity connections on the one hand and the high capital cost for states to ensure 'last mile connectivity' that has hindered the access to electricity for such large proportion of households. Recognising such situation, the Hon'ble PM Narendra Modi announced recently a new scheme, *Pradhan Mantri Sahaj Bijli Har Ghar Yojana*, also called 'Saubhagya' scheme with an estimated expenditure of Rs. 16,320 crore.ⁱⁱⁱ Given the mammoth task of attaining 100 percent household electrification, no one in government, in fact, is sure about time deadline for meeting targets. On August 10, 2017, the then power minister Piyush Goyal informs Parliament that the task of 100% household electrification would be accomplished by August, 2022 whereas PM Modi, in view of the 2019 elections, is trying to push government machinery and meet the target of lighting up all homes by December, 2018.

The media across the nation has been covering this scheme by highlighting its various aspects. However, there remains a lack of balanced and comprehensive treatment to it. Informal discussions with DISCOMs reveal that the government has not released any formal guidelines yet and it would happen soon. Meanwhile, an effort is needed to provide a critical appraisal of the nature and scope of this scheme so as to gauge the effectiveness of State's concern to ensure energy security for India's poor, left-out and remote hamlets/houses. In such situation, a very useful analytical tool is of SWOT analysis which provides a balanced analysis of Successes, Weaknesses, Opportunities and Threats. Here, we conduct a SWOT analysis of 'Saubhagya' Scheme.

Strengths

The Saubhagya Scheme, given its aim to attain 100 percent household electrification, seems to be a very significant intervention. Its key strength lies in its concern to target,

approach and electrify each left-out household and ensuring 'last-mile connectivity'. It aims at providing connectivity without any monetary expense, i.e. free if the household belongs to BPL category.^{iv} As it aims for universal coverage, others may avail its benefit by paying Rs. 500 which would be recovered by DISCOMs in 10 instalments of electricity bills.

It relies strongly on solar energy for off-grid connectivity and aims to power remote hamlets with solar power packs of 200-300 Watts having eight-hour battery backup along with five LED lamps, a DC fan and a DC power plug besides a five year assurance of repair and maintenance service. As its predecessors, it considers Rural Electrification Corporation as the national-level Nodal agency for scheme implementation and entrust other public institutions and Panchayats with the task of collecting application forms, distribute bills and collect payments.

Having an estimated expense of Rs. 16,320 crore, it provides a unique financing mechanism through Central support (60%), State support (10%) and bank/market loans (30%). Unlike its predecessors, its entire focus is not only on rural segment but it covers urban segment as well. Out of the total outlay of Rs. 16,320 crore, the outlay for rural households will be of Rs. 14,025 crore and Rs. 2,295 crore will be allocated for urban areas. The scheme also brings with it administrative ease. It ensures on-the-spot registration of applications and hassle-free receipt of connections.

Weaknesses

Given above strengths, there are some weaknesses as well. The scheme aims at providing electricity connection free of cost to BPL households but it does not guarantee free electricity. The households have to pay for it. In rural and remote areas where people remain the victims of faulty metering and other malpractices, the popularity of metered electricity supply is doubtful unless masses are adequately educated and made aware about its usage. There are apprehensions about DISCOMs inflating bills which add to reluctance in taking electricity connections. To contain bill recovery issues, option for pre-paid metering is under consideration with the government but how far it would be operationally feasible is yet to be seen.

Despite the fact that the scheme doesn't promise to measure the quantum or quality of power supply, it is considered as a step towards ensuring 24x7 power supply. In fact, the question of providing continuous and quality supply would depend on ability of DISCOMs. At present, most of DISCOMs are financially weak. Given the political pressures to provide free/subsidised electricity to agricultural or domestic consumers, they will continue to load-shedding and in such situation, 24x7 power supply to villages will remain a pipedream. Moreover, the cost of running scheme would come from the state and most of the states, given their fiscal health, would be reluctant in its effective implementation. In case the states agree to bear subsidy burden, the whole exercise of containing subsidy burden during recent years would turn out to be a futile exercise. Meeting additional subsidy burdens of this scheme would become difficult to meet due to state's fiscal targets.

One rationale behind this scheme, as proclaimed by government, is to raise employment opportunities. Surprisingly, it is not clear how the scheme would help when the households are provided single line connections. In order to enable productive usage of electricity, amendments in the Indian Electricity Act, 2003 would be required to allow commercial usage from domestic connections. Moreover, an effective usage would require access to three-phase connections but the scheme remains silent over this aspect.

Most of the DISCOMs are not having adequate staff to oversee their daily operations which is resulting into a large number of electric accidents and deaths. If there is going to be an expansion of network, then there is more responsibility of the DISCOMs to avoid such unwanted incidents. But, the scheme does not say much on strengthening the staff strength, at least of those at ground level, of the DISCOMs.

Opportunities

The scheme brings with it various opportunities as well. It is largely seen as a landmark intervention that would help the poor in getting rid of candles and harmful kerosene used for lighting. Access to electricity would change household dynamics by lengthening duration of productive time. It would ease the life of women and children and thus, would contribute positively towards their better educational and health attainments. It

would also lead to higher connectivity through radio, TV and mobiles, public safety and increased job opportunities.

The scheme is going to yield economic dividends by pushing demand for power. Even a single unit daily consumption by the new four crore households would raise the daily electricity demand by forty million units which would help the DISCOMs, to some extent, in honouring 'Power Purchase Agreements'. Access to electricity would raise the demand for electric gadgets, LED bulbs and household appliances which would impact positively the manufacturing sector. It is noteworthy that since the announcement of the scheme, the share values of companies manufacturing electric meters, transformers, cables etc. are on the rise.

Besides improving per capita electricity consumption levels, the scheme would help India meeting its global climate change commitments. Substitution of inferior fuels with electricity would reduce GHG emissions and thus, would help India in its move towards low carbon growth agenda. It is expected that due to economies of scale effect, UJALA^v scheme will also get boost. This scheme popularises LED bulbs and other energy efficient appliances like fans through its non-subsidised financing model.

Threats

There are various threats as well. As the energy security framework has to work on the principle of equity, efficiency and sustainability, there are concerns over the last component under new scheme. Owing to imbalanced monsoon, poor agricultural performance and least concern of present government on rural employment guarantee scheme NREGA, there is limited purchasing power in rural areas but surprisingly, not much is done to deal with affordability issue. It is feared that new connection holders under the scheme would be the poorest of the poor who may be connected once but they may not retain connection for a sustainable period as they lack economic capacity to address recurring burden of electricity bills and thus, face the threat of default in bill payments. What is more required on the part of government is to work on strengthening financial muscle of the rural poor so that they may start demanding electricity in a much more affordable manner which would also boost economic sustainability of the DISCOMs.

The tariff rates for these new connection holders, given the nature of consumer set, have to be relatively subsidised. In such case, the subsidy burden would be borne either by States or the DISCOMs as under *Ujwal DISCOM Assurance Yojana (UDAY)*, the government is trying to bail out once the financial losses of DISCOMs and thereafter, the Centre would not provide any financial support. There is populism in power pricing (Jain, 2006) and even the UDAY has failed so far to address this problem. In such situation, providing electricity to these new customers at 'not-so-profitable' tariff rates would be the least priority of the DISCOMs which would turn down the whole purpose of this scheme.

Under RGGVY launched by UPA government in 2005, the Centre bore 90% of the cost with states only bearing 10%. At that time, the economy has been growing comfortably at 7.9 percent during 10th Five Year Plan (2002-07)^{vi} and it could mobilise resources. But, at present, the Indian economy is facing economic slowdown and mobilisation of required resources would be a concern. The Central funding is limited to only Rs. 9,858 crore which is 60% of Rs. 16,430 crore which may remain largely inadequate as only Rs. 4 per household would be left for powering 4 crore households. It is yet to be seen if the government would be able to manage with this much fund allocation or it has to make some more allocation. If so, then from where the resources would come when the State is already under pressure to provide fiscal stimulus to the slowing-down economy.

In conclusion, one may say that a fair assessment of strengths, weaknesses, opportunities and threats leaves the impression that this scheme may go a long way towards achieving 100% household electrification target. However, the issues of getting rid of load shedding and power outages would remain and a lot of effort is required to ensure continuity and reliability. In fact, through this scheme, the government envisages to transform rural India with the introduction of electric vehicles and other power-driven equipments. Such vision seems to be progressive as far as the development of power infrastructure in rural areas is concerned. Drawing insights from rich literature on energy-human development linkage, one may expect this scheme affecting significantly the quality of life especially for women and may play an instrumental role in strengthening educational and health outcomes, communications, public safety and

job opportunities. Linking these outcomes with the progress made under UJALA Yojana, one may see India's pursuit of energy efficient low carbon economy. Nonetheless, there are many-more milestones that India is yet to achieve to solve its problem of energy security.

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ⁱ The official definition of an electrified village got revised several times. As per recent criteria, a village is considered to be electrified if at least 10 percent of its households are electrified in addition to either of school, dispensary, community hall or Panchayat office etc.

ⁱⁱ As per GARV dashboard (<https://garv.gov.in>), accessed on October 8, 2017.

ⁱⁱⁱ PIB (2017) PM launches Pradhan Mantri Saubhagya Yojana; dedicates Deendayal Urja Bhawan to the Nation, September 25, Press Information Bureau, New Delhi.

^{iv} For identification of BPL households, it relies on Socio-economic and Caste Census (SECC), 2011.

^v UJALA stands for Unnat Jyoti by Affordable LEDs for All.

^{vi} This growth of gross national product at factor cost (at 1999-00 prices) has been the highest across all five-year plans (Economic Survey, 2009-10: Table 1.2, pp. A-4).