Utilising Electricity Access for Poverty Reduction

CASE STUDY REPORT: INDIA

EXECUTIVE SUMMARY

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Executive Summary

The research presented in this report forms one of two Case Studies prepared for the project Utilising Electricity Access for Poverty Reduction. The Case Study seeks to answer, in the Indian context, the questions:

1. **What level of electricity access is required to enable and sustain poverty escape?**

2. **What constraints, despite increased access to electricity, mean that people are not able to use that electricity productively? How can they be removed?**

The research has been carried out through desk studies of policy and regulation, consultations with stakeholders involved in electricity provision and field research focusing on communities touched by four different electricity access programmes.

Overall, the field research has not revealed a consistent relationship between levels of electricity access and its impacts in terms of either productive activity or poverty reduction. Enterprises with electricity access seemed to enjoy increases in profits greater than those without electricity access, but their revenues (and changes in their revenues) were roughly the same. Beneficiary households had higher incomes and saw greater increases in household income, but the difference is not large enough to be conclusive. Electricity access seems to have offered considerable benefits for education, and to a lesser degree healthcare. Employment was higher amongst non-beneficiaries, while increases in employment amongst both beneficiaries and non-beneficiaries appeared to go to men and not women.

When viewed on a case-by-case basis some of the programme studies offer more compelling evidence of the positive impacts of electricity access, at least in contexts of communities where there is an obvious deficiency in basic energy services (lighting), suffered by almost all households and enterprises, that the electricity access programme can address.

The solar lantern programme covered by Case Study P3 (the Lighting a Billion Lives programme in Orissa) appears to have conferred substantial benefits to the customers of the solar lantern rental service, despite providing electricity access that only registers as a small step on the scale. With strong evidence of relationships between electricity access and enterprise profits, enterprise revenues, household income and quality of education, in many ways the LaBL case study showcases the potential for even very basic electricity access programmes to catalyse economic activity, and/or to be taken full advantage of in the wake of increasing economic activity. However, the success of this programme in the location studied is also dependent on the presence of a number of enabling factors, without which the

positive impact would be much lessened or non-existent. The absence of these same factors, or opposing constraining factors, may go some way towards explaining the weaker impact of some of the other programmes studied, despite the broader electricity services they offer and enable.

Numerous policy factors were identified that influence the provision of electricity access, which enjoys strong political support and mobilisation but does not achieve its potential because of the confusing multiplicity of electrification and electricity access programmes in India. Subsidy support for rural electrification projects is helpful, but could be better targeted to assist developers to cover high ongoing costs of provision. Rural off-grid provision is enabled by relaxed licensing and tariff-setting rules but constrained by lack of cross-subsidy (compared to grid electricity) and opaque grid extension plans.

The take up of available electricity access through Solar Home Systems is encouraged by a subsidy of 40%, although meeting the remaining cost is still a challenge for credit-starved households and enterprises. The high cost of off-grid electricity means that productive users of off-grid access may struggle to compete with users of subsidised grid electricity. In general, electricity access programmes do not give sufficient attention to productive uses of electricity.

In the communities studied, the assessed level of electricity access for households appears to be driven almost entirely by capacity and affordability, whereas capacity and availability are the key limiting attributes for enterprises' electricity access. However, the participants in focus groups held in each community pair also identified poor quality and reliability as constraints on their household and productive use of power, a sentiment that was closely echoed by the views of the electricity access provider stakeholders consulted. Quality, reliability and availability were also among the top five most widely reported enabling factors/constraints by the households and enterprises surveyed. Costs appeared to be of much more concern to households than to enterprises, which matches expectations given that typically energy costs make up a much smaller proportion of the cash flow of an enterprise.

Interviewed stakeholders felt that skills requirements and lack of access to markets for products and services are among the most severe barriers to the successful uptake of new productive activities following an increase in electricity access. Economic activity cannot normally be promoted through electricity alone; rather, it is by putting village-scale productive uses at the heart of electricity access provision that policymakers and programme developers can simultaneously improve the viability of electricity access projects and better ensure that the ultimate aims of poverty reduction and economic development are achieved.

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