

Socio-economic Impacts of Renewable Electricity Diffusion in Rural India

Topic: Impact Analysis: Multipliers

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The impacts of electricity on improving the quality of life of households as well as productivity in small industrial establishments are well documented in literature. Despite best attempts however, there still remain 44.7% of households without electricity in rural India (Census 2011). In a bid to connect increasing number of villages, the Indian government has initiated programmes such as Rajiv Gandhi Grameen Vidyutikaran Yojana (Village Electrification Programme). However, the pace of the electrification has been slow and there still remain large areas that remain unconnected. Even in areas that are connected, there are frequent problems of blackouts and brownouts that consumers complain of.

The Ministry of New and Renewable Energy is thus seeking to promote decentralized electricity generation or off-grid application of renewable processes. Decentralized application for rural areas could serve as a supplementary source of electricity to meet the unmet demand that conventional grid supply cannot meet. While it is expected that the cost of grid connected power would be comparatively much lower, these off-grid renewable energy projects would provide a source of supplementing power supply through reduced outages and load management. It can also be a viable source for those distant and inaccessible places in the rural hinterland for which extension of transmission lines and related infrastructure would prove to be very costly and inefficient.

This paper seeks to use a Social Accounting Matrix for India (base year 2007-08) to analyse the socio-economic impact of decentralized renewable electricity projects in rural India. It seeks to go beyond the purely financial lens traditionally used to look at the economics of renewable power installation. Using SAM multipliers, both forward and backward linkages of renewable electricity would be analysed. The novelty of the paper lies in its attempt to quantify not just economic, but the social dimension of this diffusion as well.