

# **Analysis of the Energy Access Improvement and its Socio-economic Impacts in Rural Areas of Developing Countries**

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In this study, we have developed an energy-economic model of rural areas in India to analyze optimal energy system for alleviating energy poverty, and evaluate socioeconomic effects of the energy access improvement in terms of health hazard. Relying on traditional biomass, households in the areas are consuming fuelwood in manner of unsustainable way, and are harmed by hazardous pollutants. As a result of the analysis, it is revealed that, considering opportunity cost of collecting fuelwood, LPG is widely adopted by the households and the exposure to the pollutants is largely alleviated to the same level to Japanese environmental criteria.

**Keywords:**

Energy poverty, Energy access, RSPM exposure, rural area, developing country