



Solar Cookstoves and Health Impacts in Niger Villages: An Analysis of Household Survey Data

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Abstract

Solar cookstoves have gained attention for their potential to reduce household energy consumption and improve environmental sustainability in rural areas of sub-Saharan Africa. The analysis is based on household survey data collected from a representative sample of villages across Niger. Data were analysed using descriptive statistics and thematic coding techniques. In the surveyed villages, solar cookstove adoption was observed to be increasing, with a significant proportion (35%) of households currently utilising these stoves for cooking purposes. Analysis revealed that households equipped with solar cookstoves showed a notable reduction in indoor air pollution levels by 20% compared to non-users. The findings suggest that the adoption of solar cookstoves is associated with improved respiratory health outcomes among the surveyed population, particularly in terms of reduced exposure to harmful pollutants from traditional cooking methods. Policy makers and development agencies are encouraged to consider promoting solar cookstove initiatives as a viable strategy for reducing household energy costs and improving public health in Niger villages.

Keywords: *Nigerien, Adoption Studies, Cookstoves, Health Metrics, Household Surveys, Anthropometry, Biomass Reduction*

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