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IMPACTS OF ACCESS TO ALTERNATIVE CLEAN FUEL ON THE USE OF DIRTY FUEL FOR HOUSEHOLD CHORES: THE CASE OF BIOGAS IN INDIA

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The impacts of the indoor air pollution due to the use of biomass on the health of women and children are widely documented. Unfortunately, for majority of the rural households in developing countries, the source of biomass, such as cow dung and crop residue is mainly the agricultural by-products. Therefore, the use of biomass as fuel for household chores is mostly a general practice. However, by converting animal dung and other biomass into biogas and the use it for household chores can not only mitigate the problem of indoor air pollution, but also can contribute to the environmental sustainability by reducing the use of biomass and firewood. Moreover, the by-product of the biogas digesters can be a major source of organic fertilizer. However, to formulate effective policy to encourage the establishment of biogas plants and the use of biogas at the household level, it is imperative to provide solid evidence on the impacts of biogas use on other dirty fuel usage. Studies, however even seldom focus on the characteristics of the households that use biogas for household chores. To fill in the gap, using information from India, the present study firstly characterizes the households that use biogas and secondly, assesses the impacts of biogas use on the use of dirty fuel such as firewood and chips, kerosene and dung cake. This study econometrically demonstrates that the agriculture households, households with own house, and the households headed by the educated head and spouse are more likely to establish a biogas plant. Importantly, the use of biogas significantly reduces the use of dirty fuel. The use of biogas in developing countries therefore can not only reduce indoor air pollution related health hazards, but also can contribute to sustainable development by protecting forest resources.

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