African Poverty Reduction Studies (Interdisciplinary -

Solar Cookers in Sahelian Agriculture: A Review of Implementation and Impact on Cooking Efficiency and Energy Costs

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Abstract

Solar cookers have gained attention as a sustainable alternative to traditional cooking methods in Sahelian regions of Africa, where access to electricity and gas is limited. A comprehensive literature search was conducted using databases such as JSTOR, Google Scholar, and African Journal Online (AJOL), focusing on studies published between and . Data from six field trials indicated a significant reduction in cooking time by up to 60% when solar cookers were used compared to conventional methods, with substantial energy cost savings of approximately 40-50%. Despite the promising results, variability in cooker designs and user training programmes hindered consistent impact across different settings. Future research should focus on standardising cooker design and improving user training to maximise efficiency and cost reduction. solar cookers, Sahelian agriculture, cooking efficiency, energy costs, rural women farmers

Keywords: *Sahelian, SolarCooker, EfficiencyImprovement, RuralAgriculture, EmpiricalStudy, Methodology, Sustainability*

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