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Biogas Diffusion Among Rural Senegalese Households in Rwanda: An Eco-Friendly Waste Management Study

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Abstract

Biogas diffusion has been identified as a promising approach for waste management in rural areas, particularly among households with limited access to conventional sanitation facilities. A participatory action research approach was employed, involving semi-structured interviews with community members, focus group discussions, and a survey among farmers. Data were analysed using thematic analysis to identify patterns of biogas diffusion and challenges faced by participants. Biogas systems were adopted at varying rates across different regions in Rwanda, ranging from 20% to 60%, with significant variations influenced by socio-economic factors such as access to land and financial resources. Challenges included initial investment costs and lack of technical support. While biogas diffusion is feasible in rural settings, its adoption requires tailored strategies addressing economic barriers and enhancing community engagement for sustainable waste management practices. Policymakers should consider implementing subsidies or financing mechanisms to reduce the upfront cost of biogas systems. Community-based training programmes are recommended to ensure proper operation and maintenance of the systems.

Keywords: *Rwanda, Senegal, Geography, Sustainability, Participatory, Methodology, WasteManagement*

ABSTRACT-ONLY PUBLICATION

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