

Potentials in utilizing biogas for cooking: A case in Sri Lanka army

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Abstract

The increasing demand for sustainable energy and the expanding cost of Liquefied Petroleum gas motivate people to shift on to renewable sources. Unsystematic waste management and disposal methods also pose a number of environmental concerns. These challenges, particularly in the context of Sri Lanka Army, have laid the basis for this study. Beyond financial benefits, biogas is an environmental friendly energy source, as it reduces greenhouse gas emission and a systematic solution to increased waste collection. When implemented appropriately, bio-energy can enhance food production through organic agriculture using residues, recycling nutrients and generating energy. This study explores the potential of utilizing biogas for cooking applications in Sri Lanka Army, while critically analyzing the awareness and attitude among military personnel, evaluating costs, benefits, environmental sustainability and challenges faced by military personnel when introducing biogas technology in the cooking applications in Sri Lanka Army. Both primary and secondary data were used in this study. Primary data were collected from a random sample of 70 military officials and 30 non-military personnel, using a structured questionnaire. Key informant discussions were also held with intellectuals of government and non-government institutions to obtain primary data. Data were analyzed and evaluated using descriptive statistics and correlation analysis. The result indicates that investment, utilization of local materials, durability, type of inputs, cost effectiveness are positive indicators for potentiality of utilizing biogas for cooking applications in Sri Lanka Army. The financial feasibility was explored using an exhaustive cost analysis and found that shifting to bio-energy solution is cost effective. Based on this, it is recommended implementing a pilot project in army camps under selected headquarters to evaluate the performance and explore the feasibility of extending biogas application to other camps.

Keywords: *Biogas, Financial feasibility, Renewable energy*

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