

Experimental Investigation of Community Biomass Cookstove

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Abstract

Traditional community cookstoves have a low level of efficiency due to incomplete combustion of the fuel wood. The low efficiency results in a high consumption of fuel wood, thereby resulting in the need to collect more fuel wood, which ultimately leads to deforestation. This paper deals with development of a biomass cookstove suitable for community cooking. The stove exhibits approximately 39% thermal efficiency and its power rating is 5 kW. The maximum flame temperature recorded is 712°C. The data indicates that the developed cookstove can save approximately 7155 kg of CO₂ per annum.

Keywords: Biomass, Combustion, Cookstove, Community cooking, Water boiling test.