



A PROJECT REPORT ON
“FABRICATION AND PERFORMANCE TESTING OF
EFFICIENT STOVE FOR RURAL USE”

(SPONSORED BY K.S.C.S.T)

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ABSTRACT

The stove is designed and fabricated to give maximum efficiency by utilizing heat for producing useful work. In developing countries, especially in rural areas nearly two billion people depend on biomass (i.e. fuel wood, weeds etc) for energy purpose. The performances of stoves used for producing energy in rural areas are unsatisfactory due to incomplete burning of fuel and loss of useful heat. The partial combustion of biomass results in smoke, which is harmful when, comes in contact or inhaled. The project aims at eliminating these limitations.

The body of the stove is fabricated using Mild steel. Water jackets and glass wool are provided for insulation purpose. There is a provision for ash pit for collecting the ash particles which comes out through the grate which is made of Cast iron. Suitable passages are provided for air flow into the combustion chamber. The chimney is fabricated using Galvanized Iron and is incorporated with spiral copper tubes which acts as an economizer. Good draft has been provided for flow of flue gases.

Performance tests have been performed to make a comparison between the traditional stove and fuel efficient stove. The designed stove is 40 percent more efficient than traditional stove and requires less time for cooking and heating purposes. The application of fuel efficient stove is expected to reduce serious drawbacks incurred in presently used stoves in rural areas. This also improves the living conditions.