

ABSTRACT

The report deals with the design and fabrication of areca husk gasifier stove. Areca husk is the by-product of areca processing and has no useful application. It is generally burnt along the road side as a waste. In this project it was proposed to design a gasifier stove to utilise the energy content of areca husk for thermal energy required in the rural area.

The basic idea of the fabrication was obtained from the farmer. Proper design of the size of the combustion was carried out for an assumed load. The details of the fabrication of the various components of the stove are included in the report. The fabricated stove has a diameter of 0.36m and height of 0.50m. Provision for supplying primary and secondary air is provided at the appropriate places.

The fabricated stove was tested for burning of the areca husk and the combustion process was satisfactory. The thermal efficiency is found to be around 10-15%. The suggestions for improving the thermal efficiency have been given in this report.