VISVESVARAYA TECHNOLOGICAL UNIVERSITY

JNANA SANGAMA, BELGAUM – 590014, KARNATAKA.

PROJECT REPORT ON

"BIOMASS GASIFIER STOVE USING AGRICULTURAL WASTE (CROP RESIDUE)"

(Sponsored by KSCST, Bangalore, SPP 37 Series:37S_B_BE_006)

Submitted in partial fulfillment of the requirements for the award of degree Of

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

Submitted by

VIKAS BHAVI	2HA11ME420
SATISH KALAKERI	2HA11ME417
SADANAND KAMMAR	2HA11ME414
SHRISHAIL NARAGATTI	2HA10ME413

UNDER THE GUIDANCE OF

Prof. VEERANNA .D.K

DEPARTMENT OF MECHANICAL ENGINEERING.

SHAIKH COLLEGE OF ENINEERING AND TECHNOLOGY, BELGAUM - 591156

2013-2014

ABSTRACT

The rice husk gasifier stove is a device used for domestic cooking, utilizing rice husk of fuel. The stove is designed to burn a husk using limited amount of air for combustion to produce a luminous blue flame which is almost similar to that of LPG stove.

The rice husk gasifier stove follows a principle of producing combustible gases primary carbon monoxide from rice husk fuel by burning it with limited amount of air. The rice husk are burned just enough convert the fuel into the char and allow the oxygen in the air and generated gases during the process to react with the carbon in the char at the higher temperature to produce combustible carbon mono oxide(co), hydrogen (H2) and methane(CH4). Other gases carbon dioxide (CO2) and water vapour(H2O) which are not combustible are also produced during gasification by controlling the air supply with a small fan. The amount of air necessary to gasify rice husk is achieved.

The problem facing of deforestation in our country which is used as a fuel for cooking requirement. There is a need for us to look for alternative biomass fuel other than wood that is used for cooking. So it can be concluded that rice husk gasifier stove is a good replacement for LPG stove particularly in terms of fuel saving and quality of flame (i.e. luminiuous blue flame, smokeless) produced during cooking. It will significantly reduce the cost of house hold spending on conventional fuel sources such as electricity, kerosene, wood and wood charcoal it will help to reduce the pollution in the air brought about by the excessive burning of wood and other biomass fuel on the traditional cook stove it will help preserve the forest by reducing the cutting of trees for the production of wood fuel and wood charcoal thus minimizing the problems concerning drought during summer and rainy season.