

**“BRIQUETTING AGRICULTURAL WASTE AS AN
ENERGY SOURCE”**

PROJECT REPORT

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ABSTRACT

Billions of tons of agricultural residues are generated each year in developing and developed countries. This volume of biodegradable wastes can be converted to an enormous amount of energy and raw materials. Agricultural waste converted to energy can substantially displace fossil fuel. Agricultural waste is an ideal source for charcoal.

The briquetting system is the conversion of agricultural waste into uniformly shaped briquettes that are easy to use, transport and store. The concept of briquetting based on materials that are of no use due to lack of density, compress them into a solid fuel of convenient shape that can be burned like wood or charcoal.

This study aims at converting these agricultural wastes to char, by an eco-friendly, continuous batch process. The char thus obtained can be briquetted into a solid fuel form and later can be used as an efficient, clean source of fuel. Therefore, bagasse and coffee husk were selected as a raw material for the carbonization that helps in mitigating both economic and environmental problems. Results obtained shows that the calorific value of briquettes produced from bagasse and coffee husk were found to be 10439 KJ/Kg and 11389 KJ/Kg respectively. The briquette produced from the mixture of bagasse and coffee husk in the ratio 3:1 had a calorific value of 11126 KJ/Kg. Briquettes produced from coffee husk have greater calorific value. The calorific value of wood charcoal was found to be 8269 KJ/Kg which is lesser compared to the briquettes produced.

Hence, briquettes have better physical properties and combustion rate than the initial waste. Production of briquette charcoal helps to ease the pressure on the forest cover, there by solving the deforestation problem.

Keywords: agricultural wastes, wood charcoal, briquette charcoal, calorific value, deforestation.