

**Briquetting of Coffee and Coconut Husks as an  
Alternative for Wood Charcoal for Small Scale Industry**

A Thesis Study Presented to Faculty of Environmental and Sanitary Engineering  
College of Engineering, Architecture, and Technology  
De La Salle University - Dasmariñas  
Dasmariñas City, Cavite

The seal of De La Salle University - Dasmariñas is a circular emblem with a scalloped border. It features a central shield with a red triangle at the top, a white field with a blue and red cross, and a green star. Below the shield is an open book with a gear and a leaf. The text "AKLATANG EMILIO AGUIBALO INFORMATION RESOURCE CENTER" is written in a circle around the shield. At the bottom, it says "De La Salle University - Dasmariñas • Since 1977 • Dasmariñas, Cavite, Philippines".

In Partial Fulfillment of Requirements for the Degree  
Bachelor of Science in Environmental and Sanitary Engineering

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## ABSTRACT

Amadeo, Cavite, the “Coffee Capital of the Philippines”, consists mostly of agricultural areas which include coffee and coconut trees. Apart of generated wastes in Amadeo includes agricultural wastes such as coffee husk and coconut husk.

One possible method of minimizing these agricultural wastes is biomass briquetting. Biomass briquette is done by carbonizing and compacting method.. The purpose of this study is to determine the effectiveness of briquetted coffee and coconut husk, compared to commercially available wood charcoal to serve as fuel for energy production and at the same time help minimize these agricultural wastes.

Experimental result showed that the coconut briquette produced the highest calorific value of 5818 cal/g compared to wood charcoal having 4444 cal/g only. In terms of moisture content, the lowest was the 1:1 ratio of briquette. The briquettes yielded a very low percentage of greenhouse gases than the commercial wood charcoal, in particular the CO<sub>2</sub>, CO, NO<sub>x</sub> emission. The price of the briquettes is in the same price range with the commercial wood charcoal.

Coffee and coconut briquette can help minimize wastes in Amadeo Cavite and at it has been proven that it is more effective compared to wood charcoal in terms of calorific value and fuel burning time.

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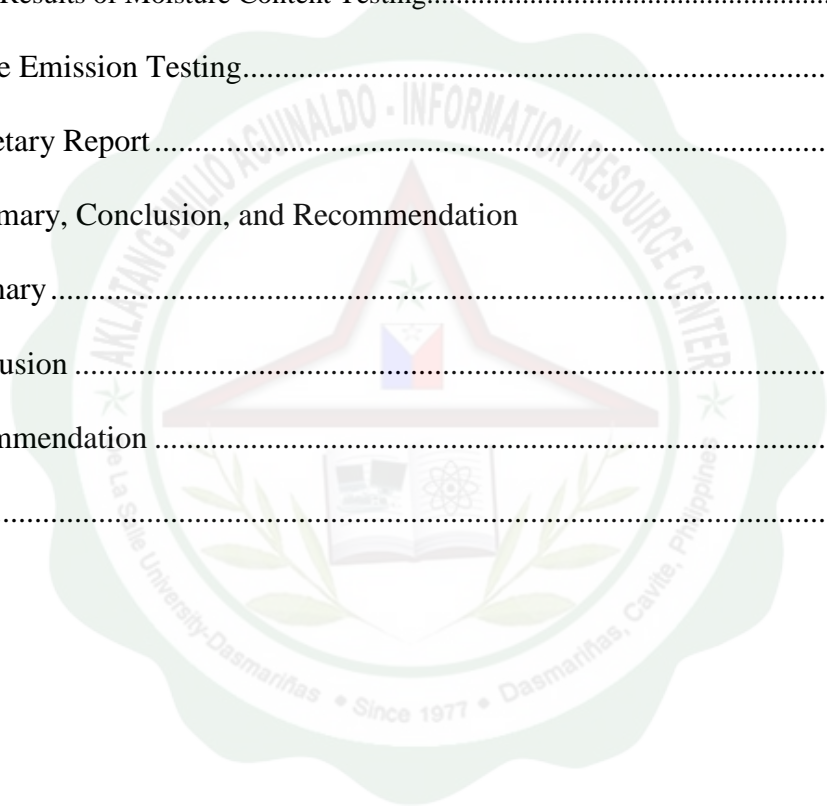
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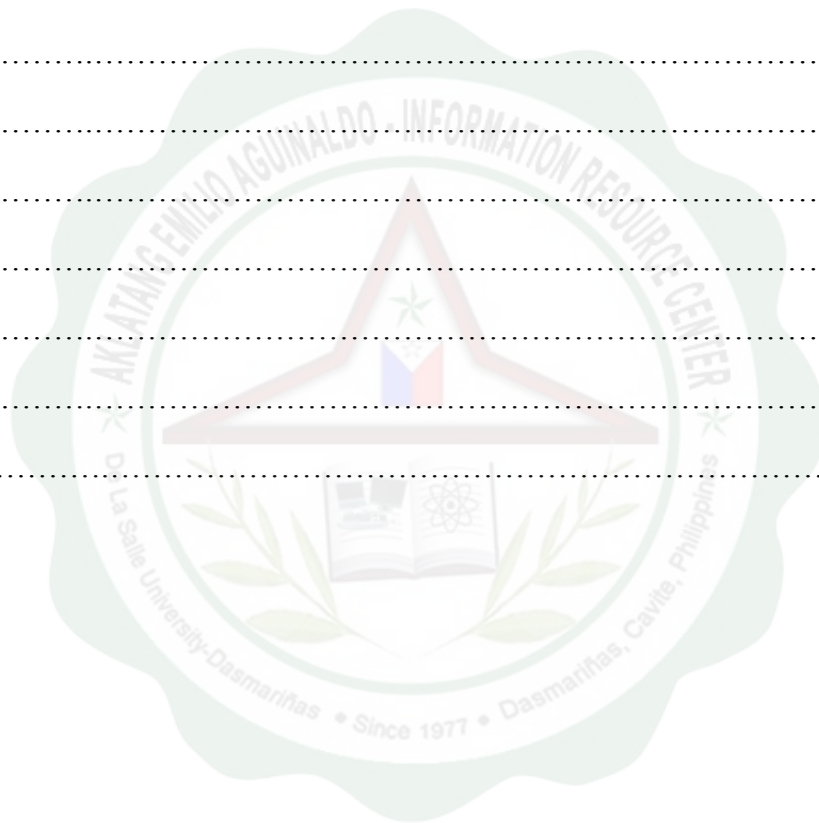
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