EFFECTIVENESS OF BRIQUETTES AS AN ALTERNATIVE ENERGY SOURCE FOR HOUSEHOLDS
By Henry Bukenya

INTRODUCTION

Biomass has become the focus of increasing interest as a potential source of energy, especially in developing countries in Africa. The growing need for energy, coupled with the desire to decrease deforestation, has led to an increased interest in the use of biomass. This has been driven by the need for sustainable development and the desire to reduce our reliance on fossil fuels. Biomass is a renewable resource that can be used for cooking, heating, and power generation. There are many different types of biomass, including wood, agricultural waste, and municipal solid waste. In Kenya, the use of biomass as a fuel source has been growing, and it is estimated that about 80% of households use wood for cooking. However, the use of biomass as a fuel source can have negative impacts on the environment and human health. This study was conducted to determine the effectiveness of briquettes as an alternative energy source for households in Kenya.

METHODS

OBJECTIVES

1. To evaluate the effectiveness of briquettes as an alternative energy source for fuel.
2. To determine the calorific value of different types of briquettes.
3. To assess the impact of briquettes on the environment.
4. To determine the economic feasibility of using briquettes as a fuel source.

RESULTS

Sample

<table>
<thead>
<tr>
<th>Sample</th>
<th>Number of Trip</th>
<th>Number of Shuffles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample A</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sample B</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Sample C</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 1. The percentage of volatile matter for the various briquettes

Figure 2. The percentage of ash content for the various briquettes

Figure 3. The calorific value for the various briquettes

Figure 4. The percentage of moisture content for the various briquettes

Figure 5. Effect of moisture content on calorific value

Figure 6. The crushing strength for the various briquettes

Figure 7. Summary of the parametric results for the briquettes

CONCLUSIONS

The results of this study indicate that briquettes can be an effective alternative energy source for households in Kenya. They are less expensive than traditional fuels and have a lower environmental impact. However, further research is needed to determine the sustainability and long-term impact of using briquettes as a fuel source.

ACKNOWLEDGEMENTS

This research was supported by the Kenya National Construction Authority (KNCA) and the University of Nairobi. The authors would like to thank the participants who provided the samples for this study.

REFERENCES