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Development of Fuel Briquettes and Pellets by Biomass Densification Technology for Energy Application Can Save Sri Lanka's Trees

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Abstract

Behind coal and oil, biomass is the third largest energy resource in the world. The least expensive biomass resources are the waste product from wood or agro processing operations such as saw milling residues, coconut residues, paddy residues, sugar cane residue, and maize residues. Many of the developing countries produce huge quantities of agro residues. Understanding the technology behind the densification and adapting to suitable technology would provide a better market for it in Sri Lanka. Densification of biomass is a solution for this issue. Densification (baling, briquetting or pelleting) is used to improve characteristics of materials (especially low density biomass) for productive transport and improved fuel characteristics.

Densified biomass is acquiring increasing importance because of the growing domestic and industrial application for heating, combined heat and power and electricity generation in many countries. Various studies have looked in considerable details at biomass densification techniques and cost of production. Through briquettes and pellet are produced in Sri Lanka by different manufacturers at the moment, any significant study has not been conducted in the context of Sri Lanka.

This paper highlights the problems associated with the dependency on wood as the main source of fuel for household and industries in rural and urban areas. It is also discusses the measures to promote the production, marketing and use of briquettes from loose biomass materials as alternative energy, as well as their advantages. It then concludes that to control deforestation for the purpose of fuel wood collection and their negative impacts on health, climate and ecology: affordable and environmentally friendly fuel sources for homes and local industries are vital.

Keywords: Agro residues, Saw milling residues, Briquettes, Technology