The Feasibility Study of Coal Making from Corncob Coal and Coconut Coal

Abstract

Corn for animal food is a major agricultural product of Nan, a province of Thailand. After cultivation, corncob is burned at cornfields because the farmers need areas for preparing the next cultivation season. Hence, the remaining corncobs after burning are left uselessly. This agricultural waste can be value-added by transforming it to coal. The coal can be sold as an OTOP product (One Tambon One Product) that well substitutes the use of natural coal. Before doing business, it is necessary to study the feasibility of the project. Therefore, the objective of this research is to study project feasibility of corncob coal for commercial purpose. Moreover, the methodology for doing project feasibility can be a guideline for any other products of other areas. In this research, Maejarim primary school in Nan province has chosen to be a pilot organization, which runs the business. The business will help generate more income to people and students who involve in the business. Moreover, the income can be used for supporting education activity for students. This business supports the “School in Dream” project of Thai government and the Ministry of Education. This research covers four areas of study composing of marketing, production technique and management, environment and safety, and financial and economics issues. From marketing research, the study shows that major customers are barbeque restaurants, small food shops, and families that use coal for cooking. In production point of view, the results from experiments show that the heat coefficient of the coal can be improved by adding some coconut coal into corncob coal and tapioca flour should be added for combining purpose. The weight ratio should be 7:1:2 for corncob coal: tapioca flour: coconut coal. From environmental and safety study, it is shown that coal burning should be made far away from accommodation because it may disturb vicinity people. Job recruitment and job training are necessary and should be done properly because improper use of the coal extruder machine is harmful to the workers. The result from financial and economics study shows that at 30% sale point of maximum production capacity, the NPV of 73,523 baht will be obtained at 9% interest rate during a period of 10 years and the IRR of this project is 9% for 10-year period.