

ABSTRACT

FINANCIAL FEASIBILITY ANALYSIS OF BIOPELLETS MADE FROM SAP FREE OLD OIL PALM TRUNK RESIDUE

By

ROBINSON BINER SIMANJUNTAK

Utilization of sap free of old oil palm trunk from replanting activities had not been optimally managed and caused potential environmental problems. One alternative of utilization was processing it into biopellets however, the financial feasibility of the business still required evaluation. This study aimed to analyze the financial feasibility and sensitivity of a biopellet production business using sap free old oil palm trunk residue. The study employed a survey method with a quantitative approach using primary and secondary data. Financial feasibility analysis was conducted using Net Present Value (NPV), Internal Rate of Return (IRR), Break Even Point (BEP), Net Benefit Cost Ratio (Net B/C), and Payback Period (PP), supported by sensitivity analysis. The results showed that the biopellet business was feasible, with an NPV of Rp 15,694,146, an IRR of 7.96%, a Net B/C Ratio of 1.28, a production BEP of 15,707 kg, and a Payback Period of 4.76 years. Based on the sensitivity analysis, the biopellet business remains financially feasible despite a 5% increase in the cost of old oil palm trunk raw materials and an 8.66% increase in operational costs, indicating that the business has strong financial resilience to cost fluctuations.

Keywords : Biopellet, old oil palm trunk, financial feasibility, sensitivity analysis

ABSTRAK

ANALISIS KELAYAKAN FINANSIAL BIOPELET BERBAHAN DASAR AMPAS BATANG KELAPA SAWIT TUA BEBAS NIRA

Oleh

ROBINSON BINER SIMANJUNTAK

Pemanfaatan ampas batang kelapa sawit tua bebas nira belum dilakukan secara optimal dan berpotensi menimbulkan permasalahan lingkungan. Salah satu alternatif pemanfaatan menjadi biopelet. Namun kelayakan finansial masih perlu dikaji. Penelitian ini bertujuan untuk menganalisis kelayakan finansial dan sensitivitas usaha biopelet berbahan dasar ampas batang kelapa sawit tua bebas nira. Metode penelitian yang digunakan adalah metode survei dengan pendekatan kuantitatif menggunakan data primer dan sekunder. Analisis kelayakan finansial dilakukan menggunakan Net Present Value (NPV), Internal Rate of Return (IRR), Break Even Point (BEP), Net Benefit Cost Ratio (Net B/C), dan Payback Period (PP), serta analisis sensitivitas. Hasil penelitian menunjukkan bahwa usaha biopelet dinyatakan layak dengan NPV sebesar Rp 15.694.146, IRR 7,96%, Net B/C Ratio 1,28, BEP produksi 15.707 kg, dan Payback Period 4,76 tahun. Berdasarkan analisis sensitivitas, usaha biopelet tetap layak dijalankan meskipun dilakukan penambahan biaya bahan baku batang kelapa sawit tua sebesar 5% dan penambahan biaya operasional sebesar 8,66%, yang menunjukkan bahwa usaha memiliki ketahanan finansial terhadap perubahan biaya.

Kata kunci : Biopelet, batang kelapa sawit tua, kelayakan finansial, analisis sensitivitas