

**PENILAIAN KEBERLANJUTAN PRODUK RENDANG SAPI
DALAM KEMASAN MENGGUNAKAN METODE
*LIFE CYCLE SUSTAINABILITY ASSESSMENT (LCSA)***

TESIS



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ABSTRAK

Proses produksi rendang sapi dalam kemasan dapat menyebabkan dampak lingkungan, ekonomi, dan sosial. Penelitian ini bertujuan untuk menganalisis keberlanjutan daur hidup proses produksi rendang dari Rendang Katuju, Sentral IKM Rendang Payakumbuh, dan Rendang Uni Lili berupa dampak lingkungan, dampak ekonomi, dan dampak sosial pada 1 kg rendang sapi dalam kemasan dalam batasan *gate-to-gate*. Metode yang digunakan yaitu *Life Cycle Sustainability Assessment* (LCSA) dimana dampak lingkungan dianalisis menggunakan metode LCA, dampak ekonomi menggunakan metode LCC, dan dampak sosial dengan metode S-LCA. Terakhir dilakukan penilaian keberlanjutan menggunakan metode *Analytic Hierarchy Process* (AHP), setelah itu dilakukan perbandingan keberlanjutan. Hasil penelitian menunjukkan dampak lingkungan dengan dampak paling besar yaitu *global warming potential* pada setiap lokasi yaitu sebesar 1,00; 2,82; 4,14 kg CO₂ eq. Dampak ekonomi dengan investasi sebagai dampak terbesar yaitu sebesar Rp104.500.000; Rp1.875.516.345; Rp91.000.000. Dampak sosial yang memberikan dampak terbesar yaitu gaji yang adil sebesar 1; 4; 1 poin penilaian, serta K3 pekerja dengan nilai terendah dengan nilai kuantitatif sebesar 3, 2, 1 poin penilaian. Setelah dilakukan penilaian keberlanjutan dengan metode AHP, dilakukan perbandingan keberlanjutan dari ketiga lokasi mulai dari yang paling besar dan kecil berturut-turut yaitu Rendang Katuju sebesar 70,38%, Rendang Uni Lili 67,08%, dan Sentral IKM Rendang Payakumbuh sebesar 42,81%. Rendang Katuju disarankan meningkatkan gaji karyawan hingga UMP. Sentral IKM Rendang Payakumbuh disarankan mengganti ke kompor LPG dan meningkatkan pengawasan terhadap K3 pekerja. Rendang Uni Lili disarankan mengganti proses memasak menjadi kompor LPG, meningkatkan gaji karyawan proses pengemasan ke UMP, dan meningkatkan pengawasan terhadap K3 pekerja.

Kata Kunci: AHP, dampak ekonomi, dampak lingkungan, dampak sosial, LCSA



ABSTRACT

The production process of packaged beef rendang can cause environmental, economic, and social impacts. The study aimed to analyze the sustainability of the life cycle of the rendang production process from Rendang Katuju., Sentral IKM Rendang Payakumbuh, and Rendang Uni Lili in the form of environmental impacts, economic impacts, and social impacts on 1 kg of packaged beef rendang within gate-to-gate limits. The method used was the Life Cycle Sustainability Assessment (LCSA), where the environmental impact was analyzed using the LCA method, the economic impact using the LCC method, and the social impact using the S-LCA method. Finally, a sustainability assessment was carried out using the Analytic Hierarchy Process (AHP) method, after which a sustainability comparison was made. The results of the study showed that the environmental impact with the greatest impact was the global warming potential at each location, which was 1.00; 2.82; 4.14 kg CO₂ eq. The economic impact with investment as the largest impact was Rp104,500,000; Rp1,875,516,345; Rp91,000,000. The social impacts that have the greatest impact are fair wages of 1; 4; 1 assessment points, and workers' SHE with the lowest value with a quantitative value of 3, 2, 1 assessment points. After conducting a sustainability assessment using the AHP method, a comparison of the sustainability of the three locations was carried out starting from the largest to the smallest, respectively, namely Rendang Katuju at 70.38%, Rendang Uni Lili at 67.08%, and Sentral IKM Rendang Payakumbuh at 42.81%. Rendang Katuju is advised to increase employee salaries to the minimum salary. Sentral IKM Rendang Payakumbuh is advised to change to LPG stoves and increase supervision of workers' SHE. Rendang Uni Lili is advised to change the cooking process to LPG stoves, increase employee salaries in the packaging process to minimum salary, and increase supervision of workers' SHE.

Keywords: AHP, economic impact, environmental impact, LCSA, social impact

