

# Analisis dampak lingkungan peternakan penggemukan sapi potong dengan implementasi life cycle assessment = Environmental impact analysis of beef cattle livestock by implementing life cycle assessment

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## Abstrak

Daging sapi merupakan sumber makanan yang kaya akan kandungan penting bagi tubuh dan populer di berbagai negara, tak terkecuali Indonesia. Konsumsi daging sapi di Indonesia diproyeksi akan terus mengalami peningkatan setiap tahun. Tren peningkatan permintaan daging nasional tersebut menjadi salah satu pendorong utama pengintensifan produksi daging sapi dalam negeri. Namun, produksi daging sapi menjadi salah satu kontributor dampak lingkungan, terutama peternakan. Oleh karena itu, diperlukan evaluasi di area peternakan untuk mengetahui seberapa besar dampak lingkungan yang diakibatkan oleh peternakan sapi potong dengan menggunakan pendekatan life cycle assessment. Dari hasil penelitian ini, pengelolaan limbah peternakan berupa kolam penampungan kotoran berbentuk slurry menjadi penyebab dampak lingkungan terbesar di area peternakan. Perbaikan sistem pengelolaan kotoran perlu dilakukan untuk dapat menurunkan potensi dampak lingkungan. Beberapa alternatif rekomendasi perbaikan diberikan beserta risiko dan potensi biaya yang dihadapi dalam pengimplementasiannya. Pengelolaan kotoran solid storage, daily spread, dry lot, dan pengolahan biogas disimulasikan kembali dan hasilnya dibandingkan dengan kondisi saat ini. Di antara seluruh opsi perbaikan, pengelolaan kotoran dengan cara penumpukan kotoran padat atau solid storage menjadi rekomendasi perbaikan terpilih karena memiliki rasio biaya termurah dan potensi penurunan dampak lingkungan sebesar 33 persen..... Beef cattle is a food source that is rich in important substances for the body and is popular in many countries, including Indonesia. It is projected that beef consumption in Indonesia will continue to increase every year. The trend of increasing national demand for beef is one of the main drivers for the intensification of national beef production. However, beef production is one of the contributors of environmental impact, especially livestock. Therefore, it is necessary to evaluate and find out how much environmental impact is caused by beef cattle livestock using life cycle assessment approach. The result of this study shows that manure management in the form of a slurry-shaped manure collection pond is causing the biggest environmental impact in the livestock. Improvements to the manure management system need to be carried out to reduce the potential for environmental impacts. Several recommendation options for improvement are given along with the risks and potential costs encountered in the implementation. Manure management of solid storage, daily spread, dry lot, and biogas are simulated again and then the results are compared with current situation. Among all recommendation options, manure management by accumulating solid waste or solid storage is chosen as the recommendation because it has the lowest cost ratio with the potential for reducing environmental impact by 33 percent.