

ABSTRAK

Banyaknya jumlah ayam petelur sebesar 27.710 ekor menyebabkan jumlah kotoran ayam yang semakin banyak sehingga rentan terhadap pencemaran lingkungan. Di Desa Kaduara Timur, pengolahan limbah peternakan ayam petelur masih belum dikelola secara maksimal. Padahal limbah peternakan ayam petelur memiliki kandungan unsur hara yang berpotensi dimanfaatkan menjadi pupuk organik. Penelitian ini menggunakan pendekatan *Sustainable Value Engineering* (SVE) dan *Analytical Hierarchy Process* (AHP) untuk menentukan prioritas alternatif pupuk organik yang paling optimal dan berkelanjutan. Hasil analisis *Analytical Hierarchy Process* (AHP) menunjukkan nilai consistency ratio (CR) sebesar 0,095, sehingga penilaian responden dinyatakan konsisten. Pendekatan *Sustainable Value Engineering* (SVE) dan *Analytical Hierarchy Process* (AHP) menunjukkan bobot prioritas alternatif pupuk kompos memperoleh nilai benefit tertinggi sebesar 0,6264, pupuk bokashi 0,2285, dan pupuk organik cair sebesar 0,1451. Berdasarkan perhitungan *Sustainable Value Engineering* (SVE), pupuk kompos memiliki nilai tertinggi sebesar 2,68941, dibandingkan pupuk bokashi sebesar 1,9451, dan pupuk organik cair sebesar 1,30423. Pupuk kompos direkomendasikan sebagai alternatif pengolahan limbah peternakan ayam petelur menjadi pupuk organik yang paling optimal dari segi ekonomi, teknis, lingkungan, dan sosial. Hal tersebut sejalan dengan program *Sustainability Development Goals* (SDGs). *Sustainability Development Goals* (SDGs) nomor 12 dan *Sustainability Development Goals* (SDGs) nomor 15. Dengan demikian, pengolahan limbah peternakan ayam petelur menjadi pupuk organik menggunakan pendekatan *Sustainable Value Engineering* (SVE) dan *Analytical Hierarchy Process* (AHP) dapat digunakan sebagai dasar dalam menentukan alternatif pengolahan yang paling optimal, ekonomis, dan berkelanjutan.

Kata Kunci: *Sustainable Value Engineering* (SVE), *Analytical Hierarchy Process* (AHP), limbah peternakan ayam petelur, pupuk organik.

ABSTRACT

The large number of laying hens, amounting to 27,710, has resulted in an increasing amount of chicken manure, making it vulnerable to environmental pollution. In East Kaduara Village, waste management from laying hen farms has not been optimally managed. This is despite the fact that laying hen farm waste contains nutrients that have the potential to be used as organic fertilizer. This study used the Sustainable Value Engineering (SVE) and Analytical Hierarchy Process (AHP) approaches to determine the priority of the most optimal and sustainable organic fertilizer alternatives. The results of the Analytical Hierarchy Process (AHP) analysis showed a consistency ratio (CR) of 0.095, thus the respondents' assessments were consistent. The Sustainable Value Engineering (SVE) and Analytical Hierarchy Process (AHP) approaches showed that the priority weight of the compost fertilizer alternative obtained the highest benefit value of 0.6264, bokashi fertilizer 0.2285, and liquid organic fertilizer 0.1451. Based on Sustainable Value Engineering (SVE) calculations, compost has the highest value of 2.68941, compared to bokashi fertilizer (1.9451) and liquid organic fertilizer (1.30423). Compost is recommended as the most optimal alternative for processing laying hen farm waste into organic fertilizer from an economic, technical, environmental, and social perspective. This aligns with the Sustainability Development Goals (SDGs) program, including Sustainability Development Goals (SDGs) number 12 and Sustainability Development Goals (SDGs) number 15. Therefore, processing laying hen farm waste into organic fertilizer using the Sustainable Value Engineering (SVE) and Analytical Hierarchy Process (AHP) approaches can be used as a basis for determining the most optimal, economical, and sustainable processing alternative.

Keywords: *Sustainable Value Engineering (SVE), Analytical Hierarchy Process (AHP), laying hen farm waste, organic fertilizer.*