

ABSTRAK

UD HSN Pamekasan merupakan UMKM yang memproduksi petis ikan tuna. Objek pada penelitian ini adalah produk petis ikan tuna kualitas super karena memiliki volume penjualan tertinggi, tetapi juga menerima keluhan konsumen terkait ketidakkonsistenan rasa, kerusakan kemasan, dan tekstur yang kurang padat. Proses produksi petis ikan tuna juga berpotensi menimbulkan dampak lingkungan akibat limbah padat, cair, dan gas. Oleh karena itu, penelitian ini bertujuan untuk mengembangkan produk petis ikan tuna yang berkualitas dan ramah lingkungan melalui integrasi *Quality Function Deployment* (QFD) dan *Life Cycle Assessment* (LCA) dengan pendekatan *Green Quality Function Deployment* Tahap 1. Metode *House of Quality* digunakan untuk mengidentifikasi kebutuhan konsumen berdasarkan data dari 68 responden. Data ini diperoleh dari penggunaan rumus Bernoulli, sedangkan *Life Cycle Assessment* digunakan untuk mengevaluasi dampak lingkungan sepanjang proses produksi. Hasil penelitian menunjukkan terdapat 10 (sepuluh) atribut kebutuhan konsumen dan delapan karakteristik teknis sebagai dasar pengembangan produk. Analisis *Life Cycle Assessment* menghasilkan dampak lingkungan sebesar 521 Pt per *batch* produksi, dengan proses pengentalan sebagai *environmental hotspot* utama dan kategori *global warming* sebagai dampak lingkungan yang paling dominan. Integrasi hasil *House of Quality* dan *Life Cycle Assessment* melalui *Green Quality Function Deployment* Tahap 1 menghasilkan delapan prioritas pengembangan produk yang berorientasi pada peningkatan kualitas sekaligus pengurangan dampak lingkungan. Penerapan rekomendasi pengembangan berdasarkan hasil *Green Quality Function Deployment* Tahap 1 diharapkan dapat mendukung terciptanya proses produksi yang lebih berkelanjutan serta berkontribusi terhadap pencapaian *Sustainable Development Goals* (SDGs), khususnya *Sustainable Development Goal 9 (Industry, Innovation and Infrastructure)* dan *Sustainable Development Goal 12 (Responsible Consumption and Production)*.

Kata kunci: Petis, *Life Cycle Assessment* (LCA), *Green Quality Function Deployment* Tahap I

ABSTARCT

UD HSN Pamekasan is a micro, small, and medium enterprise (MSME) that produces tuna fish paste (petis). The object of this study is the super-quality tuna fish paste product, as it holds the highest sales volume while simultaneously receiving consumer complaints regarding inconsistent taste, damaged packaging, and a less dense texture. Furthermore, the tuna fish paste production process has the potential to cause environmental impacts due to solid, liquid, and gaseous waste. Therefore, this study aims to develop a high-quality, environmentally friendly tuna paste product through the integration of Quality Function Deployment (QFD) and Life Cycle Assessment (LCA) using the Green Quality Function Deployment Phase 1 approach. The House of Quality method was utilized to identify customer requirements based on data collected from 68 respondents—determined using the Bernoulli formula—while the Life Cycle Assessment was employed to evaluate environmental impacts throughout the production process. The results indicated 10 (ten) customer requirement attributes and eight technical characteristics serving as the foundation for product development. The Life Cycle Assessment analysis revealed an environmental impact of 521 Pt per production batch, with the thickening process identified as the primary environmental hotspot and the global warming category as the most dominant environmental impact. The integration of the House of Quality and Life Cycle Assessment results through Green Quality Function Deployment Phase 1 yielded eight product development priorities oriented toward quality improvement and environmental impact reduction. Implementing development recommendations based on the Green Quality Function Deployment Phase 1 results is expected to support the creation of a more sustainable production process and contribute to the achievement of the Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation, and Infrastructure) and SDG 12 (Responsible Consumption and Production).

Keywords: *Tuna paste, Life Cycle Assessment, Green Quality Function Deployment Phase I.*