INTISARI

Proses pengolahan rumput laut memiliki variabilitas input dan tahapan yang sensitif terhadap parameter proses serta kondisi lingkungan, sehingga berisiko memicu *waiting*, penumpukan WIP, cacat mutu, dan aktivitas non–value added. Penelitian ini mendiagnosis aliran produksi *current state*, memprioritaskan waste dominan beserta keterkaitannya, dan menelusuri akar penyebab waste prioritas untuk menghasilkan arah perbaikan yang dapat ditindaklanjuti. Studi kasus dilakukan melalui integrasi Value Stream Mapping (VSM), Waste Assessment Model (WAM: WRM+WAQ; responden n=11), serta Root Cause Analysis (fishbone dan 5 Why's) yang didukung observasi, wawancara, dan telaah dokumen. VSM menunjukkan kesenjangan besar antara waktu kerja aktif dan waktu sistem; total waktu proses termasuk tahapan *time-based* mencapai 4.301 menit dan didominasi pengeringan. *Lead time* sebesar 12,93 hari mengindikasikan efisiensi siklus proses yang rendah. WAM memprioritaskan *Defect*, diikuti *Process/Overprocessing* dan *Inventory*. RCA mengindikasikan defect dipicu ketidakkonsistenan SOP/kontrol mutu di titik kritis, keterbatasan fasilitas/kapasitas, variabilitas pengeringan berbasis cuaca, dan variasi mutu bahan baku.

Kata kunci: *Lean manufacturing*; *value stream mapping*; *waste assessment model*; *waste relationship matrix; waste assessment questionnaire*; pengolahan rumput laut.

ABSTRACT

Seaweed processing is characterized by fluctuating input quality and process stages that are sensitive to operating parameters and environmental conditions, which may increase *waiting*, WIP accumulation, quality defects, and *non–value-added* activities. This study diagnoses the *current state* production flow, prioritizes dominant wastes and their interrelationships, and traces the root causes of priority waste to derive actionable improvement directions. A case study approach was employed by integrating *Value Stream Mapping* (VSM), *Waste Assessment Model* (WAM: WRM+WAQ; respondents n = 11), and *Root Cause Analysis* (fishbone and 5 Whys), supported by observations, interviews, and document reviews. The VSM results reveal a large gap between active work time and system time, total processing time including *time-based* stages, reaches 4,301 minutes and is dominated by drying. A lead time of 12.93 days indicates low process cycle efficiency. WAM prioritizes Defects as the dominant waste, followed by Process/Overprocessing and Inventory. RCA indicates that defects are driven by inconsistent SOP/quality control at critical points, facility/capacity constraints, weather-dependent drying variability, and raw material quality variation.

Keywords: *Lean manufacturing*; *value stream mapping*; *waste assessment model*; *waste relationship matrix*; *waste assessment questionnaire*; seaweed processing.