

Green Manufacturing for Rural Tofu SMEs to Increase Global Competitiveness: Case Study in Tofu Industry Center, Banyumas Regency, Central Java

Title	Green Manufacturing for Rural Tofu SMEs to Increase Global Competitiveness: Case Study in Tofu Industry Center, Banyumas Regency, Central Java
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Abstract	<p>Green manufacturing is an integrated sustainable activity that is expected to provide benefits for small industries, especially tofu industries that have obstacles such as pollution, simple technology, suboptimal processes, inefficiency of water and energy materials and limited financial capabilities. These obstacles cause the productivity process to be suboptimal and pollution around MSMEs due to waste that is disposed of without being processed. This research was conducted at the MSMEs center in Kalisari village, Banyumas, Central Java, which aims to obtain strategies in increasing tofu production efficiency through efforts to save the use of materials, water, energy and improve environmental quality through efforts to minimize and utilize waste with clean production options. The research method is green manufacturing audit method by identifying problems to analyzing feasibility opportunities from several aspects, namely technical, economic, and environmental. The results showed several counterfeits and alternatives recommendation to MSMEs in Kalisari Village, namely: gradual washing of soybeans, re-filtration of washing residues and soaking of water, use of boilers for cooking steam systems, application of Good Manufacturing Practices (GMP), use of automatic filtration tools for extraction, utilization of solid waste, and liquids. If green manufacturing is implemented, the total energy consumption per kg of soybeans from MSMEs in Kalisari Village can be reduced to 15.94 MJ/kg of soybeans. The percentage of liquid waste that can be lowered ranges from 59.64-71.07%. Tofu production can increase by 5.19%, the use of firewood can be reduced by 64.42% and the savings to be obtained range from 3.7-26.8 million rupiah/month. Keywords: Audit, Green Manufacturing, Rural, SMEs, Tofu.</p>
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