# Effect of Soybean Industry Liquid Waste Discharge and River Physical Condition on Water Quality Profile: A Case Study of Sigorok-Simaling River, Yogyakarta

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ABSTRACT

*Margoagung Village, Kapanewon Seyegan, Sleman, DI Yogyakarta is the center of the soy-based tofu industry. Every day, this food industry produces solid and liquid waste. The current practice is that the liquid waste generated from the soybean processing process is channeled to the Margoagung wastewater treatment plant (IPAL). However, due to lack of maintenance and other technical issues, the Margoagung WWTP has been damaged and is not functioning optimally. The results of the sub-optimal treatment of wastewater from the Margoagung WWTP are flowed directly into the Sigorok-Simaling River, potentially causing the river water quality to decline. Based on these problems, this study aims to evaluate the water quality of the Sigorok-Simaling river located in Kapanewon Seyegan, Sleman Regency, Yogyakarta, related to the discharge of soybean industry wastewater and the physical condition of the river. Polluted river water can have a negative impact on the environment and human health, so it is necessary to conduct research to determine the level of river water pollution and its impact on the surrounding community.*

*In this study, several water quality parameters such as pH, temperature, dissolved oxygen, biochemical oxygen demand (BOD), and chemical oxygen demand (COD) will be measured. In addition, the physical conditions of the river such as current, discharge, water depth, and plunge will also be measured and analyzed to determine the river's water quality profile.*

*The results of the study are expected to provide input for stakeholders, including government and industry, to take appropriate action to address river water pollution problems and improve environmental conditions around the Sigorok-Simaling river. In addition, in order to ensure the sustainability of a healthy environment, this research is expected to contribute to efforts to develop sustainable natural resources, especially in the field of soybean industry wastewater management and river management.*

Kata Kunci: *River quality, physical condition, soybean wastewater industry*