

ANALISIS PEMANFAATAN TEKNOLOGI MIKROHIDRO DI PT. LUIS JAYA KECAMATAN SONGGON KABUPATEN BANYUWANGI

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ABSTRACT

PT. Luis Jaya, located in Songgon District, Banyuwangi Regency, utilizes a Micro Hydropower Plant (MHP) as a source of electrical energy to support the lighting system in its tourism area. This study aims to analyze the characteristics of current and voltage and to evaluate the feasibility of lamp loads used in the MHP-based lighting system. The research employed a quantitative descriptive method through direct measurements at 32 lighting points. The observed parameters included voltage, current, and illumination intensity. The results showed that the measured voltage ranged from 13.1 to 124.5 Volts, while the current ranged from 0.0 to 3.0 Amperes. Most lighting points received a relatively stable voltage supply; however, several points experienced voltage drops due to power losses in the electrical distribution network. Based on the analysis, the MHP-based lighting system at PT. Luis Jaya is still capable of meeting the lighting requirements of the tourism area and is considered feasible as a source of electrical energy. Nevertheless, improvements are required at several distribution points to enhance the quality of electrical energy distribution and optimize the overall effectiveness of the lighting system.

Keywords: *Micro Hydropower Plant (MHP), lighting system, voltage, current, illumination intensity.*