

Evaluation of photo voltaic generating system performance for fishing light application

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Abstract

SUMMARY: Authors tested the performances of the photo voltaic generating system of independent source with solar and storage batteries for the purpose of application for fishing activities. Converting efficiency was $-0.0024t + 0.2231$ (t is average temperature), and battery coefficient, which means efficiency of battery, was 0.378. Simulation for installment on bamboo-platform liftnet (Bagan) in Pelabuhan Ratu, Indonesia, shows good results (i.e. power generated by this system is expected to be 0.263 MJ/m^2 per day, 48% greater than under the solar radiation conditions in Japan). Required area for the system installment is 18.2 m^2 for 10 h lighting of 0.5 kW fishing light. It is possible to install the system on standard Bagans.

Keywords : Bagan • fishing light • photo voltaic generating system • solar battery