



**PERFORMANCE ANALYZE AND IMPROVEMENT OF
POWER GENERATION AND DISTRIBUTION SYSTEM OF
ELUVAITHIVU ISLAND WITH MODERN
TECHNOLOGIES**

PERMANENT REFERENCE

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ABSTRACT

Eluvaithivu is an Island geographically located in the western side of the Jaffna Peninsula with a land mass of 1.7 Sq kilometers. Totally 191 families live in 130 houses and most of them are fishermen. This island is isolated from the main land and the means of electricity and total power requirement is fulfilled by the mini hybrid power generation system installed at the Island.

Total blackouts are experienced during the peak hours on most of the days when wind power is unavailable at the island, even if the installed capacity is much higher than the demand. Therefore, it is paramount to improve the power generation of the island with modern technologies to obtain optimum performance of renewable energy with minimizing the use of diesel generator.

This research was aimed to analyse the efficiency of the existing system and propose an economically viable solution to overcome the power shortage of the Island.