Abstract

In India more than 70% of the people lived in villages are cutoff from the conventional electric grid system due to its various technical and economic reasons.Hurricane lamps fueled by kerosene are widely used for lighting in the remote villages. To meet the lighting demand at night various technologies have been developed which utilizes various renewable energy sources such as solar, biomass, wind etc. Among the various renewable sources solar energyis abundantly available and published literature show that the use of solar energy assisted products for lighting are increasing in the remote villages. Solar lanterns have got various advantages such as quality of illumination, durability and versatility of use over to the other options of lighting as hurricane lamp, candles and petro-max. However, in such device there is no provision for attachment of mosquito repellant.

Based on the importance and demand in the present work a modified solar lantern with liquid mosquito repellant has been developed and tested at different operating conditions. The different tests were performed for comparing Compact fluorescent lamps with light emitting diode bulb based solar lanterns. The solar lantern design provides an optimum performance in terms of Illumination.