

# **Assessment of Solar Power Generation Potential for Agriculture Production and Processing in Andhra Pradesh**

**M Madhava, Sivala Kumar, D Bhaskara Rao, D D Smith and H V Hema Kumar**  
College of Agricultural Engineering, Bapatla 522 101, Andhra Pradesh

## **ABSTRACT**

Traditional agriculture is mostly dependent on non-commercial energy sources, whereas the modern agriculture largely depends upon commercial energy sources. Conservation of commercial energies in production, processing, handling and storage of agricultural products by supplementing and substituting with renewable energy sources both for process heat and shaft power is very much in need. Solar radiation can be effectively and strategically used if the locations of high potential solar energy generation is identified, hence the study was carried out to identify locations of high solar energy potential. The seasonal variability of different climatic parameters varies from north to south parts of coastal Andhra Pradesh and Rayalaseema region and shown the considerable variation among all the months of the year for all locations. The Andhra Pradesh state has received an average global solar radiation on 5.14 kWh/m<sup>2</sup>, air temperature of 27.28 °C, 63.75% of relative humidity and 3.4 m/s wind speed. Ananthapur and Hindupur areas recorded maximum and Srikakulam recorded minimum global solar insolation. The annual average air temperature varies in the range of 25.1-29.6 °C. Vishakhapatnam recorded maximum relative humidity i.e 72.5% whereas minimum 57.4% at Ananthapur.

*Key words: Andhra Pradesh, Average relative humidity, Average temperature, Solar radiation.*