

## **ABSTRACT**

Over the years, for the grid connected power generation capability solar energy sector in India has played as a significant role. To meet our need for energy and an energy security for our future generation which is an integral part was supported the nation's agenda of sustainable growth. Economic development assistance, improve energy supply for the general people, improvement of energy security and also mitigating climate change phenomena are some of the objectives of renewable energy in India. To explore the most attractive renewable energy in this sub-continent of India is important for the sustainable development and also for the economic progressiveness. Crisis of environment can also be solved with the help of renewable energy over the following years.

Site suitability analysis a necessary for investing the solar energy and also establishing solar PV technology. Here site suitability refers to finding potential as well as suitable locations for installation of solar PV on the basis of which decision are made. Solar engineers as well as architects receive beneficial results with the help of site suitability methods and also provide a good decision.

This paper aims to present significant research finding for the site suitability purpose for harnessing optimum solar power potential with Spatio-temporal perspective. The prime concern here is the topographical sensitivity for the solar irradiance. In this review, I have analysed the sensitivity of various topographic elements to the solar irradiation with Spatio-temporal perspective. The paper not only analyse individual effect of topographic elements and their seasonal sensitivity but also the interrelated effect thereon for an overall scenario. Thus, the recommendations have been made based on the inter-relative statistics of the dominant topographical factors thereon. The concerned analysis pertains to a predictive viewpoint for the decision makers that will also provide useful information for innovators, urban planners, policymakers, researchers and scientists.