

What is solar farms?

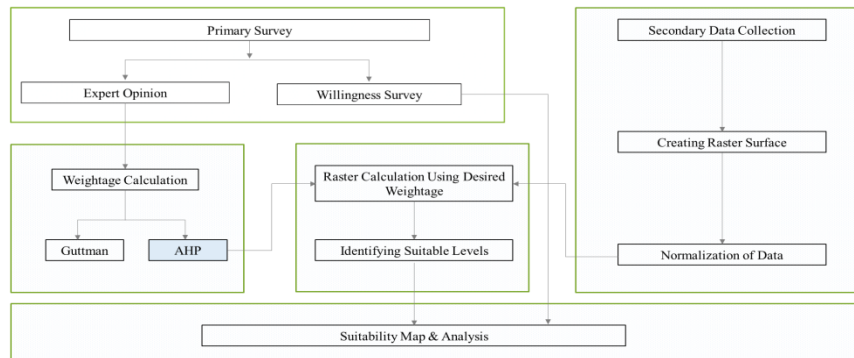
- ✓ Solar farms are the large-scale application of solar photovoltaic (PV) panels to generate green, clean electricity at scale, usually to feed into the grid.
- ✓ Solar farms can cover anything between 1 acre and 100 acres and are usually developed in rural areas.

The production of electricity from solar PV panels depends upon the different parameters, so there is a need for site suitability analysis to get the best output.

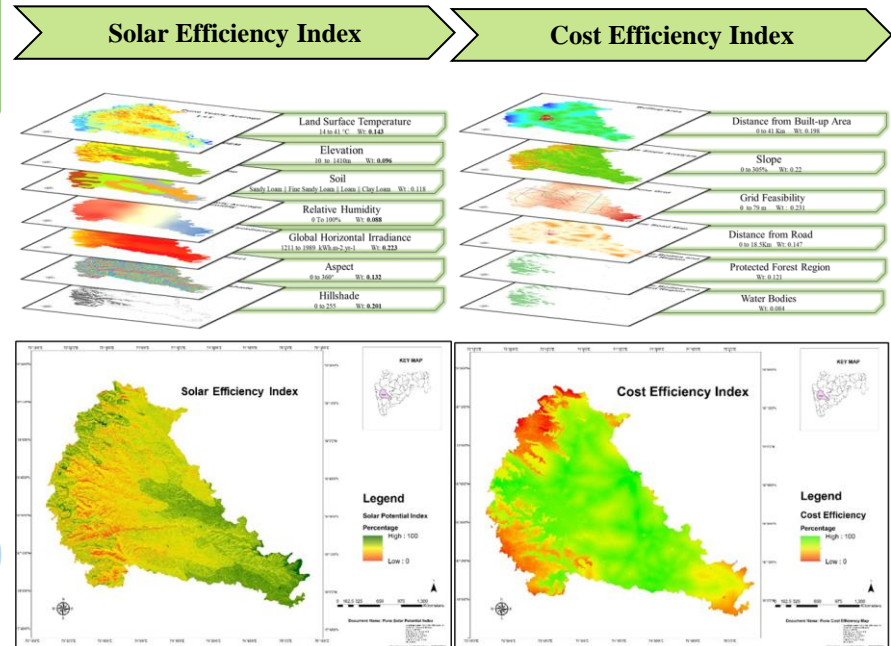
So the aim of the study is "**Optimizing the efficiency of the solar power plant as per influencing and cost-cutting parameters using a multi-criteria decision making model.**" To achieve this, the following objectives are set:

- To identify the different parameters which affect both efficiency as well as cost of project based on the working principle of PV cell
- To identify the weightage of parameters influencing solar efficiency based on expert opinion
- To identify the suitable land by multi-criteria decision making models

Analysis strategy



The following solar efficiency index and cost efficiency index are calculated using the various parameters and the weighting obtained from the expert opinion poll.



Conclusion:

- ✓ The use of the study is totally dependent on the stakeholders involved in the investment process.
- ✓ The decision of whether to prioritise a potential location or a cost-effective location is critical in determining the best location.
- ✓ The balance between potential location and cost-effective location is the sustainable approach to make the project feasible from an economic as well as environmental point of view.



Presenting Author: Lalit Mudholkar

Co Author: Bharath Haridas Aithal

Ranbir and Chitra Gupta School of Infrastructure Design and Management,
Indian Institute of Technology Kharagpur, 721302, India

Abstract



Contacts

Email ID: lalit11167@gmail.com

Registration ID: EGU22-1074.

