

Purpose

Crop production and electricity generation from a single land unit

- ❖ **System capacity:** 105 kW
- ❖ **Field area:** 68 m x 68 m, block size: three separate block each of 28 m x 28 m (about 1 acre)
- ❖ **Potential crops:** Mung bean, clusterbean, moth bean, isabgol, cumin, chickpea, aloe, brinjal, etc.
- ❖ The system (on about 1 acre) can generate an average of 420 kWh unit of electricity per day
- ❖ **Approximate income from the system:** Rs 7.5 to 8.0 lakh acre⁻¹ yr⁻¹

Potential and benefits of agri-voltaic system

- ❖ Increased income from farm land
- ❖ Recycling of harvested rainwater for cleaning PV modules and irrigating crops (1.5 lakh litre per acre and can provide 40 mm irrigation in 1 acre land)
- ❖ Improvement in microclimate for crop cultivation and optimum PV generation
- ❖ Reduction in soil erosion by wind
- ❖ Reduction in dust load on PV panel
- ❖ Improvement in land equivalent ratio (LER ~1.42 to 1.62)
- ❖ Soil moisture conservation by reducing the wind speed on ground surface
- ❖ Reduction in GHG emission (598 tons of CO₂ savings year⁻¹ ha⁻¹)

