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In India, solar photovoltaics (PV), which is environmentally friendly and safer, is gaining popularity as a viable alternative to fossil fuels. With technological advancements in the last decade, India's solar sector has made significant growth, with an installed capacity of 46.2 GW of the country's total renewable energy (RE) capacity of 101.5 GW.

In 2019, the Government of India launched the Kisan Urja Suraksha evam Utthan Mahabhiyan (KUSUM) scheme, intending to transform farmers into power producers. The scheme aims to install 17.5 lakh stand-alone solar-powered irrigation pumps and solarise 10 lakh existing grid-connected irrigation pumps, with a total decentralised solar capacity of 25,750 MW. Despite good intentions, KUSUM has failed to interest small and marginal farmers, currently receiving free or highly subsidised power. This is so because farmers have to invest 40%–70% of the capital cost in the KUSUM scheme, which is often unattractive.

The Indian agricultural sector consumes 17.67% of the country's electricity. Fertile ground is being turned into gravel locks by huge solar facilities using large tracts only to produce solar energy. Large solar farms can also lead to the problem of heat islands. Agrovoltaics is a revolutionary new distributed solar technology that combines solar and agriculture to improve food and energy production. It allows agricultural land to produce solar power while simultaneously saving land and water. Co-benefits include preserving or, in some cases, boosting the yield of crops grown beneath solar panels. Dual usage of farmland allows developers to avoid costly land acquisitions while also providing farmers a second source of revenue from land.

Research organizations are working on the ideal and most feasible techno-economics for agrovoltaic facilities. It is necessary to quantify the costs involved in facilitating agrovoltaics based on the installation structure, as these differ for different landscapes and crop varieties. Data from pilot research on potential revenue generated must be made available to the farming community. Project economics determines the scalability of the technology. Second, separate stakeholders are currently accountable for the PV plant and farming activities in agrovoltaic setups. The government can develop an agrovoltaics platform to aggregate all stakeholders, including interested farmers and developers.

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The state government or power generation companies should invest in smaller solar PV in the form of agrovoltaics, diversifying the existing generation portfolio with RE. State governments can procure loans at reasonable interest from financial institutions and recover loans through subsidies provided to distribution companies (DISCOMs). Governments and academic institutions can carry out multi-phase pilot studies to analyze the viability and scalability of agrovoltaics in India. With agrovoltaics, farmers can enjoy uninterrupted electricity during sunny days as well as benefit from the feed-in tariff, while DISCOMs continue to receive state farming subsidies.

Under the existing Indian legal framework, reform in land-use policy for agrovoltaics needs to be introduced. The government should establish a set of guidelines for developers and educate farmers about the ideal crop varieties with agrovoltaic installations. Further, governments, developers, and farmers need to work together to identify suitable business models, feasible cropping pattern changes, and revenue-sharing mechanisms that lead to the benefit of all stakeholders. This approach will lead to sustainable growth across the country.