Significance of Solar-Farming

What is the issue?

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- There is an increasing renewable energy demand.
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- Solar-cum-agricultural farms will be one such solution to cater it.
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What are solar-cum-agricultural farms?

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- Carrying out expansion of solar power capacity as well as for crop farming together is known as solar-cum-agricultural farm.
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- The power produced by the photovoltaic modules installed in the fields can help meet energy needs of the farm operations besides selling the remaining power.
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- The rainwater falling over the photovoltaic panels can be collected for irrigation, turning it into solar-cum-agriculture-cum-rainwater harvesting farm.
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- Various designs and models of solar farming have been conceived abroad to suit local conditions, particularly the availability of sunlight.
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- This concept has been tried out with good results in several countries, notably Japan, China, Germany and the UK.
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What is the significance of this model in India?

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- In India, the most suitable and scientifically tried and tested model of agri-photovoltaic system has been evolved by the Jodhpur-based Central Arid Zone Research Institute (Cazri).
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- This system, is ideally suited to the country’s vast western arid zone spanning west Rajasthan, northwest Gujarat and parts of Haryana and Punjab, covering an area of around 32 million hectares.
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- This zone receives copious solar radiation in most part of the year.
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- In this farm, about 49 per cent of the total land that lies between the arrays of photovoltaic panels and 24 per cent falling beneath these panels remain free for crop cultivation.
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- The crops which do not grow too tall or require too much water are advised to be planted in such a farm.
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- It promotes crop diversity as pulses, vegetable crops can be farmed below the solar panels.
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What are the advantages of solar farming?

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- Solar-Farming can resolve land availability constrains for setting up solar farms.
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- This model allows gainfully utilising the synergies between the two to boost net returns from the same piece of land.
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- It can contribute to achieving the much-hyped objectives of doubling farm incomes by 2022.
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- The crop cover in between the rows of the solar panels helps check soil erosion to reduce the dust load on the panels.
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What is the way forward?

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- Setting up of such integrated agri-photovoltaic farms is typically a cost-intensive proposition, heavy investments may be unaffordable for most Indian farmers.
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- It is advisable to encourage the solar energy entrepreneurs to consider joining hands with the farmers on mutually agreed terms, instead of going in for solo photovoltaic units.
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- This will be mutually beneficial for both of them otherwise, agri-solar farms may not proliferate.
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Source: Business Standard

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