

SOLAR IN AGRICULTURE

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ABSTRACT:-Given that one day fossil fuels will end, a need arises to find alternative fuels. Renewable energy is considered an alternative to fossil fuels and nowadays it attracts much attention. Among renewable energy sources, solar is the most important because it is available in all parts of the world. Also, this fuel source is utilized in different businesses including agribusiness and it tends to be utilized in developing yields in the farthest corners of the world. Furthermore, this fuel doesn't cause contamination, similar to the next non-renewable energy sources. Utilizing the sunlight based energy can be dynamic in all rural regions. That will assist meet the expanding need for agrarian items with the expanding populace. Notwithstanding, it is realized that the farming area has a fixed region and, once in a while, agrarian items can't be developed. A grivoltaic (agribusiness photovoltaic) or sun oriented sharing has acquired developing acknowledgment as a promising methods for incorporating farming and sun powered energy gathering. Albeit this field offers extraordinary potential, information on the effect on crop development and improvement are lacking. Thusly, this examination analyzes the effect of horticulture photovoltaic cultivating on crops utilizing energy data and interchanges innovation (ICT). The investigated crops were grapes, cultivated land was divided in to six sections, A 1300 × 520 mm photovoltaic module was installed on a screen that was designed with as hading rate of 30%. In addition, to collect farming-cultivation-environment data and to analyze power generation, sensors for growing environments and wireless-communication devices were used. As a result, normal modules generated 25.2 MWh, bifacial modules generated 21.6 MWh, and transparent modules generated 25.7 MWh over a five-month period. We could not find However, as light slowing of grape growth was found in the experiment group compared to the control group. Nevertheless, the sugar content of the test area of the grape fruit in the harvest season was 17.6 Brix on average, and the sugar content of the control area was measured at 17.2 Brix. Grape sugar-content level was shown to be at almost the same level as that in the control group by delaying the harvest time by about 10 days

Keywords:-solar sharing, agriculture photovoltaic, Integrating agriculture, solar-energy harvesting Fossil fuels, Solar Energy,

I. INTRODUCTION

Renewable energy-such as solar, wind, and bio-fuels can play a key role in creating a clean, reliable energy future. The benefits are many and varied, including a cleaner environment. Electricity is often produced by burning fossil fuels such as oil, coal, and natural gas. The combustion of the fuels releases a variety of pollutants into the atmosphere, such as carbon dioxide (CO₂), sulfur dioxide (SO₂), and nitrogen oxide (NO₂), which create acid rain and smog. Carbon dioxide from burning fossil fuels is a significant component of green house gas emissions. These emissions could significantly affect the world's environment and contribute to global warming.



Figure 1-.Farm-type photovoltaic-power-generation system.

By definition solar energy is "Solar energy is the conversion of sunlight into usable energy forms"[1]. The main solar technologies are photovoltaics (PV), solar thermal electricity and solar heating and cooling. For agricultural production

The use of solar energy in farms can take different forms. Here, we use the term "solar energy farming" (SEF) to generally describe agricultural-solar (sometimes called agri-voltaic) utilization systems where used arable land is either enhanced with, or converted to, solar energy farming. However, this term is not precise since "solar farming" can be used in relation to various forms of ownership, land and sea use types, and also for different purposes.

II. MATERIALS AND METHODS

a. Installation

Majority of our villages are remotely located and devoid of electricity.

Still more than 50% of our villages are not connected to power grid. For this purpose a new and of-fordable solution is provided through our present study as discussed in previous sections. The results presented due to different shades on the ground surface has clearly indicated that cultivable agricultural land can be used for production of solar energy without any serious ill-effects on the agricultural yield of any crop. A nominal decrease in solar radiation (sunlight) during mid day (20% to 25% reduction) on the plants, actually may increase the yield of the crop. The reasons for this are as follows. It starts reaching the earth surface between 11 am to 2 pm. It is proved by the agricultural scientists that reduction in UV helps the plants to grow well [16, 17]. Similarly a small reduction of 2 0% - 30%

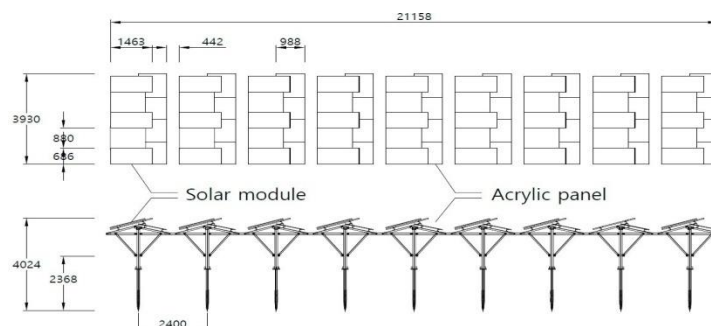


Figure 2- Structure of photovoltaic system.

III. VENTILATIONSYSTEMSFORAGRICULTURALAPPLICATIONS

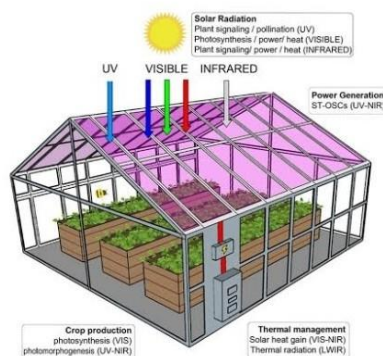


Figure 3.Transparent-panel specification (SectionF).

IV. RESULTS

Power-Generation Analysis

However, India has already installed 150,000 MW generating capacity from renewable energy sources and is moving toward decentralized power generation on a large scale for rural electrification.

Solar agriculture (AKA "agrophotovoltaics" and "dual-usefarming") allows farmers to install solar panels that offer away to make their energy use more efficient, and directly enhance their farming capabilities. For farmers with small tracts of land especially—like is commonly seen in France—solaragricultureprovidesawaytooffsetenergybills,reduce their use of fossil fuels, and breathe new life into existing operations.

V. CONCLUSIONS

The solar energy can be found in the farthest corner world and it can be developed to electric power production and agriculture. Using solar energy can do the majority of cases related to agriculture. In addition, due to the reduction fossil fuel energy can inexpensively Gremlin. Also uses solar energy in agriculture can land that is unusable in to the green house or she or breed in animals converted in area out side