

Creation of Agriculture Solar Pump

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Abstract - This is new innovative model which is used to control the water pumping system for agricultural field and also in garden. The system consists of solar panel, pump, battery and water tank.

Solar energy is used to give the power to pump because now a days power demand is increased due to this power failure happen many times.

1.INTRODUCTION

Agriculture was developed at least 10,000 years ago, and it has undergone significant developments since the time of the earliest cultivation. Evidence points to the Fertile Crescent of the Middle East as the site of the earliest planned sowing and harvesting of plants that had previously been gathered in the wild. Independent development of agriculture is also believed to have occurred in northern and southern China, Africa's Sahel, New Guinea and several regions of the Americas. Agricultural practices such as irrigation, crop rotation, fertilizers, and pesticides were developed long ago but have made great strides in the past century. The HaberBosch method for synthesizing ammonium nitrate represented a major breakthrough and allowed crop yields to overcome previous constraints. In the past century, agriculture has been characterized by enhanced productivity, the substitution of human labour for synthetic fertilizers and pesticides, selective breeding, and mechanization. The recent history of agriculture has been closely tied with a range of political issues including water pollution, biofuels, genetically modified organisms, tariffs, and farm subsidies. In recent years, there has been a backlash against the external environmental effects of mechanized agriculture and increasing support for the organic movement and Sustainable agriculture.

2. IRRIGATION

Irrigation may be defined as the science of artificial application of water to the land or soil. It is used to assist in the growing of agricultural crops, maintenance of landscapes, and re-vegetation of disturbed soils in dry areas and during periods of inadequate rainfall. Additionally, irrigation also has a few other uses in crop production, which include protecting plants against frost, suppressing weed growing in grain fields and helping in preventing soil consolidation,[1]. In contrast, agriculture that relies only on direct rainfall is referred to as rain-fed or dry land farming. Irrigation systems are also used for dust suppression, disposal of sewage, and in mining. Irrigation is often studied together with drainage, which is the natural or artificial removal of surface and subsurface water from a given area. Irrigation is also a term used in medical/dental fields to refer to flushing and washing out anything with water or another liquid.

3.SOLAR PANEL

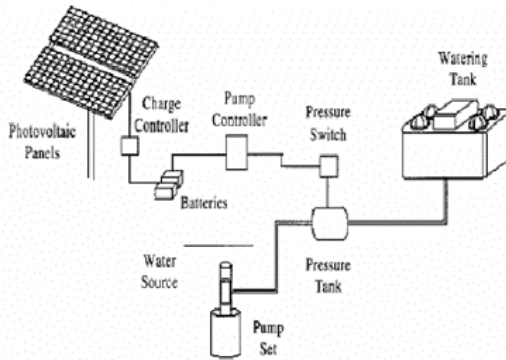
A solar panel is a device that collects and converts solar energy into electricity or heat. It known as Photovoltaic panels, used to generate electricity directly from sunlight Solar thermal energy Scollection systems, used to generate electricity through a system of mirrors and fluid-filled tubes solar thermal collector, used to generate heat solar hot water panel, used to heat water. It is energy portal. A solar power technology that uses solar cells or solar photovoltaic arrays to convert light from the sun directly into electricity. Photovoltaics is in which light is converted into electrical power. It is best known as a method for generating solar power by using solar cells packaged in photovoltaic modules, often electrically connected in multiples as solar photovoltaic arrays to convert energy from the sun into electricity. The photovoltaic solar panel is photons

from sunlight knock electrons into a higher state of energy, creating electricity.

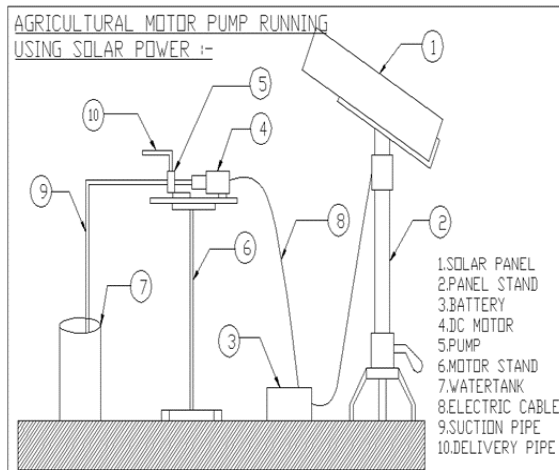
Solar cells produce direct current electricity from light, which can be used to power equipment or to recharge a battery. A less common form of the technologies is thermo photo voltaic, in which the thermal radiation from some hot body other than the sun is utilized. Photovoltaic devices are also used to produce electricity in optical wireless power transmission.

4.DESIGN AND DRAWING

Drawing for Solar Powered Agricultural Water Pumping System:



Design:



WORKING PRINCIPLE

The solar panel will create voltage with the sun light intensity. To get maximum light intensity automatically auto tracking system is used. Battery will help to store charges during the working period of

the solar panel. The dc-ac inverter circuit will run the tracker motor and dc-dc converter circuit will run the pump. Sensors are used to control water levels. If the sensor detects more water on the tanks it will disconnect the motor from the electric supply and if it detects low water level on the tanks then it will connect the motor to the electric supply. It is the basic principle of this project.

CONCLUSION

This project is made with preplanning, that it provides flexibility. in operation. This innovation has made the more desirable and economical. This project “SOLAR POWERED AGRICULTURAL WATER PUMPING SYSTEM” is designed with the hope that it is very much economical and help full to operate the pump in agricultural areas and homes, etc, this project helped us to know the periodic steps in completing a project works. Thus, we have completed the project successfully.

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