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**ABSTRACT**

The main objective of this project is to spray the chemical using non -conventional source of energy. Now a days energy is basic need for all human beings world today is facing a huge “energy crisis problem”. The alternate solution of this problem is to use Non-conventional energy. .Solar energy plays an important role in drying agriculture products and for irrigation purpose for pumping the well water in remote village without electricity. This Technology on solar energy can be extended for spraying pesticides, fungicides and fertilizers etc., using solar sprayers. Mostly farmers can use hand operated and fuel operated spray pump system for spraying pesticide. The sprayer causes user fatigue due to excessive bulky and heavy construction. Traditional farm workers are used sprayer by carrying back-pack type sprayer, Which requires human effort or by using electric pump. A user can’t use it for more than five hours without getting tired , the fuel sprayer is expensive to maintain , emits carbon dioxide and harmful to our environment. To improve the agriculture system and to reduce human efforts and problems associated with backpack sprayer, a new equipment is fabricated which will be beneficial to farmers. The proposed sprayer is design considering parameter’s like desired spraying efficiency , low weight , user eco friendly nature and also tree crops like Mangifera Indica etc..,

In this study , the solar sprayer was designed to overcome these difficulties. The system operated in both direct mode and indirect mode. In direct mode , the sprayer is operated from the electricity generated by 40 W solar panel are placed at home terrace and the indirect mode it is operated on stored electrical energy in lead – acid Dc battery (12V , 12 Ah). Voltage regulator , any electrical or electronic device that maintains the voltage of a power source within acceptable limits. It will increase the output. Double motor pump of 12V , is used to generate the required operating pressure to spray the liquid pesticide formulation. capacity of storage tank is 20 liter. Further , the solar panel are used for multi – purpose application such as charging the battery of mobile , operating the radio and lighting the domestic light etc.

**Key words:** Solar panel, battery, DC motor, voltage regulator, nozzle, renewable energy , pesticide.

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