ABSTRACT

The objective of this work is to develop "Solar powered Multi-purpose Agriculture Vehicle using pv cell". India has always been known for its agricultural products , quality and it is one of the key drivers of Indian economy. But since most of the farmers are poor and have smaller farms, there is a need to develop a portable agricultural vehicle which is affordable even for the poor farmers. At present, the most of the agricultural vehicles which are developed have only single functionality i.e. either only seed sowing or water/fertilizer spraying or ploughing mechanism. In our project we designed to accommodate all the operations in a single vehicle. The main components of the vehicle are solar panel, battery, DC motor and water pump. The function of this agricultural vehicle depends on the amount of solar energy that the solar panel receives and this solar energy is used to drive the different parts of the vehicle. The crystal based solar panel is used to charge a rechargeable battery of 12 volts. From the battery, the stored electrical energy is sent to DC motor which is used to drive it. The motor converts electrical energy in to mechanical energy and this energy is used to perform different operations like water spraying, ploughing and seed sowing with the help of switch control mechanism. This vehicle reduces the human effort in the field of agriculture and finds a solution to increase the mechanization in the fields. This vehicle is mainly useful for small size farms in order to increase the productivity. This vehicle runs on solar energy which is renewable and is easily available. In this vehicle there is no need of fuel consumption.