

# Design and Development of an Autonomous Rover Application using A Rocker-Bogie Mechanism In Agriculture

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**Abstract:** The crucial topic of upgrading the rover over its earlier designs is covered in the project work "STUDY ON ROCKER ROVER AND ITS IMPLEMENTATION IN THE FIELD OF AGRICULTURE." The ROCKER rover was intended for use on similar excursions that require it to function in challenging conditions, such as the Moon's surface. However, the use of the rocker rover can be expanded even further in fields of employment where the land has to be used for operations, such as agricultural farming. Our research focuses on how the rocker rover can be modified for use in farming, greatly increasing the automation of the agricultural sector. The rover's body is entirely composed of PVC to boost.

With the introduction of cutting-edge technologies, agricultural practices are changing with the goal of enhancing sustainability, accuracy, and efficiency. The design and construction of an autonomous rover with a rocker-bogie suspension system specifically intended for agricultural applications is the main goal of this study.

When doing in-situ scientific investigation of goals that are separated by several metres to tens of km, rocker bogie are crucial. The complicated mobility designs of today use numerous wheels or legs. They are vulnerable to mechanical failure brought on by Mars' hostile atmosphere. a four-wheeled rover with a high degree of mobility suspension system that is effective in navigating uneven terrain. The main mechanical characteristic of the rocker bogie design is how simple its drive train is—it only requires two motors to move. Because both motors are housed inside the body, where heat variance is minimised, dependability and efficiency are raised. Because there aren't many barriers on natural terrain that call for the rover to use all of its front wheels, four wheels are used.

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