

R & D Project Summary

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| Name of Project: | Bike engine Powerd Cultivator |
| Start Date of Project: | 01/04/2021 |
| End Date of Project: | 27/05/2022 |
| Faculty/Students Involved in project: | Er. Pankal Barnwal (Faculty) Students (ME): Mr. Ujjwal Mr. Vinay Tyagi Mr. Vaibhav Kumar |

Summary of Project:

The main objective of our project is to design and development of ploughing machine to use it for cultivation of soil. Our aim is to reduce the manpower required for the operation of the plough. The only way is to automate it, but we cannot fully automate it due to few constraints such as it will require electricity which will not be mostly available in villages, we will be requiring Microprocessor and sensors which will again increase the cost and might require skill to use it. We thought of solution being that instead of automating it fully we planned to semi automate it using engine, motors, and power transmission equipment. This might help us reaching our goal by reducing the manpower as well as cost. In this work we are planning to design & fabrication of ploughing machine to use of agricultural operations.

Scientific and Technological Uncertainties:

The cultivators available in the market is either manual or the are heavy diesel engine powered cultivators. The heavy cultivators are very expensive to be used by the farmers therefore the farmers mostly rely on the manual or cattle powered cultivators.

Overcoming Uncertainties:

By addressing the problems faced by the farmers we have developed a cultivator which is powered by the engine of the motorcycle. The cultivator is powerful enough to plough a small field and can also help in sowing seeds in the field

Advancement of Knowledge:

By doing this project we came to know about the problems faced by the farmers at the ground level. We assessed their problem and developes a cultivator that is very much cheap and built with scrap. By this project the society will be heavily baenifited as the small scale farmers can also use a cultivator in their field.

Project Outcome:

- As this project is simple to make and cheaper in construction, ploughing machine has vast future scope.
- Highly efficient engine could be attached to get best output.
- Various processes along with ploughing could be done such as seeding and spraying by adding more attachments.