Department : **Mechanical**

Year : **2015-2016**

Group No: **1**

Guided By

**PROF. M. D. PATEL**

# SMT. S. R. PATEL ENGINEERING COLLEGE, UNJHA

**Project Title**

**DESIGN & DEVELOPMENT OF CROP CUTTING MACHINE**


## Abstract:

This project is to help small-scale farmers to meet an increased demand food, by designing a crop cutting machine to harvest grains more efficiently. Our research work will focusing on ease of cutting operation to the small land holders for harvesting varieties of crop in less time and at low cost by considering different factors as power requirement , cost of equipment , ease of operation , field condition , time of operation and climatologically conditions. The operating, adjusting and maintaining principle are made simple for effective handling by unskilled operators.

This project aim of agriculture or farming in India is not only limited to growing of crops but is also associated with the economic growth of farmers and labours. The Small scale farmers frequently face the problem of labour shortage or are unable to afford the wages constrained by the labours. This problems prevent the fiscal growth of farmers and ultimately hamper the development of their farmland and family. Efficient, effective, cheap and productive techniques are needed to strengthen the farmers. The project is based on developing a machine which focuses on labour problems faced and small scale farmers who have agricultural land. This machine developed can harvest up to two or three rows of grain and other plant at a time. The components of the machine comprise of a pulley, a belt drive, a collecting mechanism, gear and a cutter. The crop is being harvested by a rotary type of motion. The power from the man force is provided to the cutter through pulley and gear arrangement. Powered by the pulley arrangement a collecting mechanism is being provided to the adjacent side of the cutter to collect the harvested crops. This machine is a simple and efficient solution to the problems faced by small scale farmers as it reduces the cost of harvesting to a considerable amount as compared to that of manual harvesting. The machine developed is small, compact and at very less cost. Also, it is easy to maintain as it is made up of local spare parts which are easily available.


**Prepared By:**


| Sr. No. | Student Name | Enrollment No |
|---|---|---|
| 1 | VIKAS D. PATEL | 120780119082 |
| 2 | PIYUSH D. PRAJAPATI | 120780119129 |
| 3 | MANISH D. PATEL | 120780119038 |
| 4 | HARSH V. JOSHI | 120780119008 |