Chapter 1

INTRODUCTION

Emphasizing on the design part, this project comes in reference with "**Research& Development**" stream. Thus defining the significance of this machine in a simple way would profound and be difficult. But, to brief about the project can be defined as,

"A multipurpose machine, which can be used for different purposes in agriculture such as cultivation, seeding, planting or sowing, fertilizing".

Main purposes

- Tilling and ploughing
- leveling
- Seed guiding
- Seed sowing
- Bund formation
- Fertilizing
- Carriage transportation

1.1 Tilling & Ploughing (cultivation & leveling)

This machine uses the help of a battery and an electric motor (electrical attachments which is provided depending on the requirement and field of usage) for its power, just like a tiller it can be used to remove the soil and immediately sow a seed or plantation purpose. The driving power produced will be used to move the machine to and fro and also to rotate and alter in the direction required. Further the tiller or the plougher can be adjusted to required level considering the depth needed and can be ploughed following which can leveled using a leveler attached to the same.

1.2 Seed drilling (guiding & sowing)

After a specific time period when sowing of seed has to be done, the same machine can be used to create a lane using a seed guider which impacts on the soil a pattern at a depth previously estimated. And following a seed is sown at alternate uniform distances accordingly in the lane produced. This plantation or sowing can be done in an order with the help of a seed funnel which is attached to a gear system. For every revolution of the main wheel, the gear wheel makes one revolution and thus for every revolution of the main wheel two seeds are sown or planting can be done. Thus for a particular interval, sowing or planting can be done.

1.3 Bund formation and fertilization (includes sprinkling of various fertilizers)

Later, the mud which is taken out is replaced into the soil by means of a mud tray. Further a bund can be formed either to replace the soil or to provide enough space for cultivation of the next following lane. And an attachment is provided to initiate fertilizing liquids precipitants and also for irrigation of more lanes, predominantly saving time and money.