

INTRODUCTION

Agriculture is a critical sector of the Indian economy. Though its contribution to the overall Gross Domestic Product (GDP) of the country has fallen from about 30 percent in 1990-91 to less than 15 percent in 2013-14, a trend that is expected in the development process of any economy, agriculture yet forms the backbone of development. Agriculture includes horticulture, sericulture, dairy and fishery. Agriculture contribution to Indian economy has been depleting over the years, reason being in exposure to technology, lack of labor availability due to urbanization.

It is estimated that all the horticulture crops put together cover nearly 11.6 million hectares area with an annual production of 91 million tones. Though these crops occupy hardly 7% of the cropped area they contribute over 18% to the gross agricultural output in the country. Horticultural crops play a unique role in India's economy by improving the income of the rural people. Green Revolution took place in India in the late sixties and early seventies. After more than forty years of Green Revolution and revolution in agricultural machinery and equipments, complete mechanization is still a distant dream. Therefore it is necessary to improve farm mechanization to increase the productivity.

Sowing seeds, farming, cultivating and removing weeds has been a culture which has been followed over the years. However machines have contributed their presence in Horticulture by removing weeds so that there is no consumption of nutrients from soil by weeds. Tractors remove weeds between the rows of the horticulture plantation but are unable to remove the weeds grown between successive plants hence labor is applied. Inter row cultivator attachment to the tractor which removes weeds between the successive plants. By incorporating this attachment the weeds are removed between the rows of the plants as well as between the successive plants. The interface prototype was manufactured and tested, and the satisfactory weed removing without affecting the plants determines the success of the project.

Inter Row Cultivator for Horticulture Fields

In chapter II a survey of existing methods of cultivation is presented and the problems are identified. In chapter III and IV objective of the project is developed and design methodology is stated. The process begins with making appropriate assumptions. In further chapters preliminary design decisions are made. This chapter presents every aspect of mechanism design that was chosen including its parts and materials. In further chapters selection of equipments are done according to the design of hydraulic system. Eventually the working of weed removing mechanism and the scope of project in future is presented.