

## Design and Development of Coconut Harvesting Machine for Rural Applications



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**Abstract:**

Machines and equipments are fast replacing human manual activities carried out on the basis of skills possessed by individuals. By the use of machines the effort used by humans are much lesser. Thus machines and equipments to ease human effort have been constantly developed in different fields of requirement. Agricultural development in our country has taken a great leap over the years and new sophisticated user friendly machines and equipments for planting, irrigation, ploughing, harvesting etc have been developed in India recently.

For climbing trees there are equipments which reduce the effort of humans to climb. Coconut climbing has for long been a skilled climber's expertise and the unique single stem body of the tree with cylindrical trunk has made it difficult for climbers to conquer this tree. Due to its tall nature and lack of branches, it is very difficult to climb on coconut trees and the risk involved in doing so is very high. Studies have shown that there are numerous cases where people have been victims to drastic falls from trees due to lack of skill and accidents during climbing. Considering the risk factor involved very few people come forward in this profession. The lack of well trained professional climbers have created a huge gap in the agricultural segment of coconut climbing and bridging this gap to find out skilled personnel to climb and harvest the trees has been a major motivation in the work carried out.

The demands for coconuts have never gone down from the days its benefits and usage was well aware by humans. Many states in India especially in the southern part of the country have huge cultivation of coconut trees and it is harvested regularly to derive the richest source of vegetable oil. Every part of a coconut is useful for man and it has become a major requirement in every house. Major demand of harvesting equipments, lack of proper safety in existing equipments and ever increasing demand of well trained professional climbers have been the main motivation towards designing and manufacturing a simple device which can be used by anyone willing to climb a tree with ease.



**Working model of coconut harvesting machine**



**Final product**



**Rendered model of coconut harvesting machine**