

INVENTION REPORT

COCONUT PLUCKER

GROUP MEMBERS :

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REGISTRATION NO : COL/EE/2025/F/057

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INTRODUCTION

This is a machine which is used to pluck coconuts. The aim of this tool is to make coconut plucking processing easier, faster and specially safer. It is very important in large scale coconut farms.

In the coconut farming people have been using the human power for plucking coconuts. It is a very slow method. It depends on the person; some workers are very slow. Otherwise, harvesting coconuts is a difficult and risky task for people because the trees are very tall and require skilled labour to climb them. Traditional methods of coconut plucking are time-consuming, physically demanding. To overcome these challenges, we are proposing a coconut plucking machine. This machine is designed to safely and efficiently pluck coconuts without the need for a person to climb the tree. It reduces human effort, saves time and has no risk anyway. The coconut plucking machine is a practical solution for farmers to solve these problems.

A coconut plucking machine with a robotic arm has been developed. The robotic arm can reach the coconuts and pluck them. The machine can reach near to the coconut tree and it is able to engage with the trees and climb the tree using itself.

It can increase the productivity. More coconuts can be harvested in less time, improving overall farm productivity.

Agriculture plays a vital role in supporting the economy in a lot of countries, especially in tropical regions where coconut trees are widely grown. Coconut is a valuable crop used for food, oil, fiber and many industrial products. So this machine can improve these every fields.

I think the machine will be the next step in the farming.

ADVANTAGES

- We can pluck coconut use a remote controller.
- It has a recognizing system it help to identify good coconuts.
- It can collect data about the tree like how many coconuts have upcoming season.
- Reduces the risk of accidents and injuries during harvesting.
- Reduces human effort and physical strain.
- Saves time by harvesting coconuts faster than manual methods.
- Increases productivity and efficiency in farming.
- Easy to operate and requires minimal training.
- Does not require advanced technical knowledge can be used after basic training.
- The robotic arm responds smoothly to user commands.
- Cast effective solution for small and large farms.
- One time investment that provides long term financial benefits.
- Durable design lowers maintenance and replacement casts.
- Reduces the risk of falls and serious injuries.
- Safer alternative compared to traditional manual methods.
- can be used in different weather conditions.

DISADVANTAGES

- It is not a self control robot currently.

DIAGREM

BUDGET REPORT

1) ROWER

NO	DESCRIPTION	QTY	PRICE(RS)
1	Arduino mega	1	2450
2	L shape TT motor	3	450
3	Normal TT motor	1	130
4	Server motor	7	2030
5	Stepper motor	3	690
6	(Li-ion) battery	2	560
7	Bool wheel	1	70
8	ESP 32 dry cam	1	1280
	Total		7660

2) REMOTE CONTROLLER

NO	DESCRIPTION	QTY	PRICE(RS)
1	Arduino nano	1	850
2	X - Y Axis potentiometer	2	240
3	Dot Board	1	170
4	(Li-ion) Battery	2	560
5	2S BMS	1	350
6	Two position toggle switch	2	120
	Total		2290

Total Budget :- $7660 + 2290 = \text{Rs.}9950.00$

Supervised by :-

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Date

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Signature

