

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF
YOUNG COCONUT SLICER
MACHINE**

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ABSTRACT

Despite the high sale rate, almost all vendors extract coconut water in the old-fashioned manner. They cut a hole in the fragile coconut's top with a sharp knife. To make the hole, it takes a lot of expertise and work and is quite dangerous for beginners. Because it takes a lot of work, it has a lower efficiency. Also causes the seller's shoulders ache when trying to serve it in a large quantity.

Based on that statement, the coconut slicer will be designed and fabricated in this project. The project objective is to design, analysis and fabricate the coconut slicer machine. However, this project will be limited to young coconut and to extract its juice. For FYP1, the plan to complete this machine consisted of design stage and analysis by using SolidWork software. Meanwhile for FYP2, fabrication process will be conducted. The main element of this project will be aluminium, linear actuator and custom mechanical component. The machine size to be approximately 300mm x 300mm x 500mm.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Coconut juice is one of the most popular refreshments that are being sell by street vendors and restaurants. They are quite nutritious, and most doctors advise their patients to tender coconut water. Tender coconut water has a very low caloric and sugar content. Thus, it has no detrimental effects on human health. It functions as a tonic that instantly eases weariness. The young coconut juice's high vitamin and protein content makes it the healthiest beverage. Thus, making coconut juice has been a popular product among street hawkers and customers.

In Malaysia, sellers able to sell about 100 to 200 young coconut per days. Despite the large number of sales achieved by the sellers, most of them still use the old ways in cutting the coconut which is by using manpower. They cut a hole in the fragile coconut's top with a sharp knife. To make the hole, it takes a lot of expertise and work and is quite dangerous for beginners. Because it takes a lot of work, it has a lower efficiency. Also causes the seller's shoulders ache when trying to serve it in a large quantity. Based on the problems stated, a more practical way should be applied in extracting the coconut water.

There is already a solution regarding that problem which is by the invention of coconut processing machine. Even though the machine is highly used in industry, street vendors and restaurants owner still using the conventional way because of how expensive and it being not space friendly. Thus, they prefer the traditional way. A simpler designed could be made to make sure the machine can be use and purchased by any sellers. It may not function as great as the unit being used in big industry but still able to achieve its purpose and affordable.

The aim of this study is to enhance the design of automatic coconut cutter by making it more user friendly. The goal here is to make sure that more sellers will be using a more practical way in selling their coconut. The plan to complete this machine consisted of design stage and analysis by using Solid Work software.