CHAPTER 1

INTRODUCTION

1.1 PROJECT SYNOPSIS

1.1.1 General Project Synopsis

The project involves design & development of push button coconut palm collector. As the Diploma final year project allocates the duration of 1 semester, this large man-hour project therefore requires significant efforts of the students to participate. Basically the entire push button coconut palm collector could be divided into three stages, which are concept review and development, designing and fabrication.

The push button coconut palm collector is equipped by using stainless steel 304 2B material which include, rod steel, round hollow steel, aluminum plate and Perspex in manufacturing process by perform MIG welding to joints the part. The advantages of the push button coconut palm collector are not expensive, can bring anywhere and lightweight.

The process of development is initiated from designing the shape of the push button coconut palm collector by considering the function as well. In order to produce user friendly product that is suitable to the consumer, consideration to the ergonomic factor is taken into account. It involves the measurement process before the materials are cut into pieces before joined together.
1.1.2 Specific Project Synopsis

The project title is to design & development of push button coconut palm collector. The project involves small analysis of the push button coconut palm collector and fabrication of the push button coconut palm collector itself with concerns regarding strength, durability, ergonomic factor, and convenience. Test need to be done to verify the strength of the push button coconut palm collector right before the fabrication process to avoid material and fund wasting. The projects prerequisites are Static, Dynamic and Engineering of Material. Overall, the project will meet acquire skills of design, analysis, and fabrication.

1.2 PROJECT STATEMENT

Nowadays, basically there was only traditional collector and there was no specific collector for palm oil. Therefore, there are lots of problems for workers to collect the fruits such as, workers need to squatted to collect fruits on land and it may cause sore waists. The next problem is, the traditional collector are not friendly for a user, because there are need to squatted, heavy to carry, hand become dirty and waste the time.

1.3 PROJECT OBJECTIVE

1.3.1 General Objectives

Diploma final year project objective is to practice the knowledge and skill of the student that have been gathered before in solving problem using academic research, to born an engineer that have enough knowledge and skill. This project also important to train and increase the student capability to get know, research, data gathering, analysis making and then solve a problem by research or scientific research.

The project also will educate the student in communication like in a presentation and educate them to defend their research in the presentation. The project also will generate students that have capability to make a good research report in thesis form or technical writing. This project also can produce and train student to capable of doing work with
minimal supervisory and more independent in searching, detailing and expanding the experiences and knowledge.

1.3.2 Specific Objectives

The project objectives are to design & development of push button coconut palm collector that is suite to its application especially for workers and to minimize the manufacturing cost by minimize the complexity of the push button coconut palm collector and simulate the material used with cheaper material but having high strength and endurance.

1.4 PROJECT SCOPE

i. Literature Review: Valuable data are searched and gathered. Considering the shape of the push button coconut palm collector in terms of its complexity and method to produce.

ii. Sketching & Design: Sketching and designing using Solid Work software in creating the design of the push button coconut palm collector.

ii. Fabrication: Fabricate and produce the push button coconut palm collector by using basic engineering methods such as cutting, drilling and welding.

1.5 PROJECT PLANNING

If the project task is referred, the project starts with the introduction, followed by literature review, design & measurement consideration, material preparation, methodology study, fabrication process, improvement, report writing and make a presentation on these project topics which are the push button coconut palm collector. This is involves of review of the push button coconut palm collector and examples of the current traditional collector. These tasks have been done through research on the internet and books.