

**UNIVERSITI TEKNOLOGI MARA**

**LOOSE PALM OIL COLLECTOR**

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## **ABSTRACT**

The collection of loose palm oil fruit is a crucial process due to its high oil content compared to fresh fruit bunches. It is imperative to prioritize and effectively manage this process to ensure the acquisition of clean loose fruit. In this project, the introduction of loose fruit collectors can significantly benefit estates or small planters by enhancing the efficiency of fruit collection and saving valuable time. Traditional manual methods of collecting loose fruit often pose risks of long-term injuries to workers. However, this project aims to mitigate such impacts by providing a safer alternative, allowing workers to operate more efficiently. By implementing innovative technologies or equipment specifically designed for collecting loose fruit, the project not only minimizes the chances of worker injuries but also enhances productivity. Thus, this initiative holds immense importance in improving the overall efficiency and safety of the loose fruit collection process.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of Study

Malaysia is one of the largest producers and exporters of palm oil in the world contributing 2.5 percent to its overall gross domestic product (GDP). Over than half of all palm oil planting lands are in Peninsular Malaysia, where production is concentrated. Malaysia currently cultivates oil palm on 5.9 million hectares of land, yielding 19.86 million tons of palm oil.[3] More than half million people in Malaysia are employed by the sector, an additional of 100,000 individuals are thought to rely on it for they livelihood. Six steps make up the harvesting process int most of the commercial oil palm plantation, which consist of cutting the bunches, stacking the fronds, gathering the fresh fruit bunches (FFB), gathering the loose fruit (LF), and transporting them to the mill.

Because the LF gives the highest oil extraction rate (OER) of these steps, many palm oil companies give attention to the collection of the LF causing the demand of labour in the job scope. Thus, increasing the labour or the worker in the companies causing the companies to spend more money in paying their job. Based on research the product can help to reduce the manual workers and can make the labour to work more efficiently during the collection of LF.

Addressing to the research that have been made many companies still using the manual way by using the bucket type of collection make the work of the labour to be not ergonomically causing them to have pain or illness in the future such as back pain. The product that will be made can optimizing the work of the labour and make them to work in efficiently and reduce the pain that they get from their job.