

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF A PROTOTYPE
MECHANICAL BOUNDARY MAKER
FOR VEGETABLE CROP**

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ABSTRACT

This project is to design the mechanical tool to set the boundary. The reason why this tool was designed is to replace the tool that smallholders use to set the boundaries. This product was focusing to smallholders. This is due to the fact that large-scale plantations already make use of cutting-edge equipment which is the tool or machine used were highly cost and smallholders cannot afford to buy it. Therefore, this product was designed to help them use the tool to set the boundaries. Therefore, the expectation for this product is to help the smallholder. Hopefully, they will not face the same problem over and over again before they use this product. The initiative will make it simple for them to set the boundaries. Lastly, smallholders will have the opportunity to employ this product's output for their gardens.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Boundary refers to a site of elevated land that has the height, width and length used in agriculture or horticulture. Boundaries are usually used to ensure that vegetables crops or any other plants do not sink in stagnant water and also used as a divider between the other vegetables grown in the garden [1]. The idea to design this project came when seeing smallholders gardening in their fields. Under the scorching sun, they gardening. They live in the interior. All the thing the doit manually. For example, to set the boundaries, they need to use the hoe. If they want to buy the current product, it is too expensive and it will add burden to them. Therefore, this project will recommend to help them. Instead of using hoe, smallholders can set the boundaries with this project.

1.2 Problem Statement

The problem encountered is back pain. The gardeners had to face this problem because they usually use hoe to set the boundaries. They had to bend over for a long time to finish one boundary. The effect is the posture body will incorrect and cause back pain for long term effect [2].

Another problem is taking time to set the boundaries. The gardeners need to hoe neatly to make sure the boundaries can be set properly. Therefore, they need to spend more time to set boundaries. However, with this project, they can finish early and they can do another work at the garden.

Another problem is cost. If the gardeners want to use current machine, the need to spend more money to buy it. This is because the current machine so expensive. It not worth compare to the income that they get. However, with this product, they no need to spend a lot of money to get the tool that can help them.