

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS &  
FABRICATION OF MANURE  
CLEANING CONVEYOR**

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## **ABSTRACT**

Conveyor systems have been a staple of factories and warehouses ever since the assembly line was invented, moving materials along the manufacturing line or to storage facilities. Conveyor systems can be quite simple, like rolling pin-style conveyor belts that move objects using the momentum created by slopes. A manure cleaning conveyor is a product developed due to the time consumption and human effort required in traditional manure cleaning methods. The low productivity of rabbit farms due to the high time consumption has led to this project which aims to fabricate a manure cleaning conveyor that can remove rabbits' faeces more efficiently in less time. This project intends to design, analyse, and fabricate a manure cleaning conveyor that is more time efficient and cost-effective compared to existing methods of cleaning manure. The expected outcome of this project is a product that can decrease manual labour and shorten the process of cleaning manure. In conclusion, this manure cleaning conveyor will be efficient, consume less time and energy, and raise hygiene standards which will benefit small-scale farmers.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of Study**

Animal waste clean-up on rabbit farms has traditionally been done manually, which takes a lot of time and labour. The dangerous germs and gases included in the manure make this traditional practice potentially hazardous for workers' health, in addition to increasing labour expenses. Automated technologies that can improve agricultural operations' overall efficiency, reduce the need for labour, and optimise the manure cleaning process are becoming increasingly necessary to address these problems.

Conveyors for automated manure cleaning have come to light as a viable solution for the difficulties involved in manual cleaning. These conveyors are made to efficiently gather, move, and discard animal excrement, requiring less human interaction and enhancing operational hygiene. Therefore, this project is to advance agricultural technology by looking into the design, analysis, and fabrication of a manure cleaning conveyor system. In addition to easing the stress of physical labour, this approach will increase production, save operating expenses, and guarantee a safer and cleaner environment for both workers and rabbits.