### TECHNICAL EFFICIENCY ANALYSIS OF HARUMANIS MANGO PRODUCTION UNDER CONTRACT FARMING IN PERLIS

#### FARAH HABIBAH BINTI MD. ZIN

FINAL YEAR PROJECT REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGROTECHNOLOGY (HONS.) HORTICULTURE TECHNOLOGY IN THE FACULTY OF PLANTATION AND AGROTECHNOLOGY UNIVERSITI TEKNOLOGI MARA

**AUGUST 2020** 

**DECLARATION** 

This Final Year Project is a partial fulfilment of the requirements for a Degree of

Bachelor of Science in Agrotechnology (Hons.) Horticulture Technology in the Faculty

of Plantation and Agrotechnology, Universiti Teknologi MARA.

It is entirely my own work and has not been submitted to any other University or higher

education institution, or for any other academic award in this University. Where use has

been made of the work of other people it has been fully acknowledged and fully

referenced

I hereby assign all and every rights in the copyright to this Work to the Universiti

Teknologi MARA ("UiTM"), which henceforth shall be the owner of copyright in this

work and that, any reproduction or use in any form or by any means whatsoever is

: August 2020

prohibited without a written consent of UiTM.

Candidate's signature: .....

: Farah Habibah Binti Md. Zin

Student I.D. No

Name

: 2017855806

Ι

#### **ABSTRACT**

# TECHNICAL EFFICIENCY ANALYSIS OF HARUMANIS MANGO PRODUCTION UNDER CONTRACT FARMING IN PERLIS

Harumanis mango is the most common mango clone that has been registered as MA 128 under the Department of Agricultural, Malaysia (DOA) among all mango varieties in Malaysia. It was assumed that Harumanis is originated from Indonesia and was domesticated in Malaysia since it was legally registered with DOA on May 28, 1971. Contract farming is one of the large projects that are launched as a mechanism to help small and medium-scale agricultural production farmers to guarantee their agricultural produce returns that match with their effort. The main factor of growth is due to the efficiency in resources and technology use. However, there is still not much study has been carried out in on the technical efficiency of Harumanis mango in Perlis, Malaysia especially in term of technical efficiency. The aims of the study are to examine the technical efficiency among the selected Harumanis mango farms and to identify the socioeconomic factors that influence the technical efficiency of Harumanis mango farms in Perlis. A convenience sampling method was used to collect the data through the distribution of questionnaire and directly interview farmer to get a further information. In this study, about 30 sample size is used to collect the data of Harumanis mango production by selecting the respondents from 216 of total population of Harumanis mango farmer among the whole contract farmers under Federal Agricultural Marketing Authority (FAMA), Perlis. There are two methods used to conduct the technical efficiency and determinant factors by the Data Envelopment Analysis (DEA) and Tobit Regression Analysis respectively. Based on the findings, age and agricultural extension positively influenced the technical efficiency and only age of farmer is show significant result. In conclusion, age, educational level and agricultural extension is one of the factor that impact the technical efficiency of Harumanis mango in Perlis, Malaysia. If the technical efficiency factor of Harumanis mango plantation is control, introduced other initiatives or used a improvement technology that had been introduced by any agricultural agencies or adopt a technique and technology used from other country such as Japan and Indonesia, we may have an opportunity to increase the production and the quality of Harumanis mango in the future. Based on recommendation, research in plantation need to do a lot of research regarding the technical efficiency of Harumanis mango in Perlis and they also need to include the study about the agricultural education from the farmer status instead only depend on the general education of the farmers.

## **TABLE OF CONTENTS**

	Page		
DECLARATION	I		
ABSTRACT			
ABSTRAK ACKNOWLEDGEMENT			
		TABLE OF CONTENTS	V VI
LIST OF FIGURES LIST OF TABLES LIST OF SYMBOLS LIST OF ABBREVIATIONS			
		CHAPTER ONE: INTRODUCTION	1
		1.1 Background of Study	1
1.2 Problem Statement	4		
1.3 Research Question	5		
1.4 Research Objectives	5		
1.5 Significance of Study	6		
1.5.1 Farmers	6		
1.5.2 Agricultural Extension	6		
1.6 Limitation of Study	6		
CHAPTER TWO: LITERATURE REVIEW	7		
2.1 Technical Efficiency in Fruit Production			
2.2 Input in Harumanis Mango Production	9		
2.2.1 Land	9		
2.2.2 Labor	9		
2.2.3 Fertilizer	9		
2.3 Determinants of Technical Efficiency in Ma	ango Production 10		

2.3	3.1 Farmer's Age		10
2.3	2.3.2 Educational Level		10
2.3	3.3 Agricultural Exten	sion	10
2.4	Previous Studies on the	e Performance of Crop Production	11
2.5	Use of Inputs in Tech	nical Efficiency of Harumanis Mango	13
	Production		
CHA	APTER THREE: RESE	ARCH METHODOLOGY	14
3.1	Study Area		14
3.2	Sampling Method		
3.3	The Design of the Research Question		
3.4	Data Collection		15
3.4	4.1 Primary Data Coll	ection (Questionnaire)	15
3.5	Data Analysis		16
3.5	5.1 Data Envelopment	Analysis	16
3.5.2 Tobit Regression Analysis		19	
CHAPTER FOUR: RESULT AND DISCUSSION		21	
4.1	Demographic Profile of Respondent		21
4.2	The Data Envelopment Analysis Results		22
4.3	The Tobit Regression	Analysis Results	25
CHA	APTER FIVE: CONCL	USION AND RECOMMENDATIONS	28
5.1	Conclusion and Discus	ssion	28
5.2	Recommendations		30
REF	ERENCES		31
APP	APPENDICES		34
AUT	HOR'S PROFILE		41