THE KEY SUCCESFULL OF

Extension Service On
Thailand Durian Performance
To The World Market

This book discusses the role of various stakeholders in Thailand's success. Be more specific this book consists of eleven main chapters, in which part 1 discusses the condition of Thailand in general and focuses on the condition of Chanthaburi Province as the main producer of durian in Thailand. Part 1 also states how important Chanthaburi Province is for the stability of Thai durian export supply in the world market. Part 2 will discuss cultivated varieties. in the third part of this book will shows the concept of extension and sustainable agriculture. While sections 4 and 5 discuss the GAP that has been applied to durian cultivation as well as the inspections carried out by extension agents. Sections 6 and 7 discuss the GMP applied by exporters as well as the inspections carried out by inspectors. Section 8 discusses one successful durian farmer in Chanthaburi Province. Sections 9 to 11 will cover simple analysis with SWOT and Matrix. At the conclusion of this book, readers are expected to be able to understand how the market conditions for Thai durian and understand the keys to Thailand's success, especially agricultural extension in durian production to marketing. in every part of this book shows the KEYS OF EXTENSION OFFICER ROLE on supporting the potentials durian farmers in Chanthaburi Province.

THE KEY SUCCESFULL OF Extension Service On Thailand Durian Performance To The World Market

Dian Galuh Pratita, S.P., M.Sc

Dian Galuh Pratita, S.P., M.Sc

THE KEY SUCCESFULL OF

Extension Service On Thailand Durian Performance To The World Market

THE KEY SUCCESFULL OF Extension Service On Thailand Durian Performance To The World Market

Dian Galuh Pratita, S.P., M.Sc.

pena persada

PENERBIT CV. PENA PERSADA

**THE KEY SUCCESFULL OF
Extension Service On
Thailand Durian Performance
To The World Market**

Penulis:

Dian Galuh Pratita, S.P., M.Sc.

ISBN: 978-623-315-429-1

Design Cover:

Retnani Nur Briliant

Layout:

Eka Safitry

Penerbit CV. Pena Persada

Redaksi:

Jl. Gerilya No. 292 Purwokerto Selatan, Kab. Banyumas

Jawa Tengah

Email: penerbit.penapersada@gmail.com

Website: penapersada.com Phone: (0281) 7771388

Anggota IKAPI

All right reserved

Cetakan pertama: 2021

Hak Cipta dilindungi oleh undang-undang. Dilarang
memperbanyak karya tulis ini dalam bentuk apapun tanpa izin
penerbit

PREFACE

This book will not only tell about the keys to the success of Thailand in cultivating durian, but also durian marketing. It's not only contains the author's personal experiences while in Chanthaburi Province, but also contains statistical data that supports the statement, as well as other reliable sources. This book is the result of an internship program that has been carried out by the author while in Thailand, especially in Chanthaburi Province, Office of Agricultural Research and Development Region 6 Chanthaburi Province. An internship program was carried out to increase knowledge and experience of agricultural conditions in Thailand which is known to be advanced. The author would like to thank Assoc. Prof. Am On Aungsuratana as the main supervisor during the program in Thailand and Dr. Rapee Dokmaithes. In addition, thanks are also conveyed to all staff and parties involved while the author is in OARD Region 6 so the author can run and complete the internship program smoothly, as well as write about their success in developing durian in Thailand. In addition, the authors also thank the University of Jember for all the knowledge provided. I would also like to thank my father (alm) Irfan Boedi Setiawan S.P., my mother Mrs. Dr. Asrumi, M.Hum, and younger brother Firnanda Pulung Wibowo, S.P., for all their enthusiasm and motivation. Finally, the author would like to thank to beloved husband, Sabran, S.K.M., M.P.H. and lovely son Randika Arung Naradipta for all the support given during the writing of this book. The last happy reading and hopefully useful.

Dian Galuh Pratita

TABLE OF CONTENT

PREFACE	iii
TABLE OF CONTENT	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
CHAPTER I INTRODUCTION	1
CHAPTER II DURIAN	13
A. DURIAN VARIETIES	13
B. METHOD FOR TESTING DURIAN FRUIT MATURITY	19
CHAPTER III ADOPTION, EXTENSION, AND ENTREPRENEURSHIP OF FARMERS	20
A. SUSTAINABLE AGRICULTURE	20
B. ADOPTION AND INNOVATION ON AGRICULTURE	22
C. ENTREPRENEURSHIP OF FARMERS	24
CHAPTER IV DOA AND OARD REGION 6	40
A. DEPARTMENT OF AGRICULTURE PROFILE	40
B. OFFICE OF AGRICULTURAL RESEARCH AND DEVELOPMENT REGION 6 (OARD6)	42
CHAPTER V <i>GOOD AGRICULTURAL PRACTICES (GAP)</i>	55
A. INTRODUCTION	55
B. THAILAND GOOD AGRICULTURAL PRACTICES STANDARDS	58
C. PROCESS OF GOOD AGRICULTURAL PRACTICES CERTIFICATION	60
D. INSPECTION METHOD AND STANDARD IN GAP	64

CHAPTER VI INSPECTION OF GOOD AGRICULTURAL PRACTICES	77
CHAPTER VII GOOD MANUFACTURING PRACTICES (GMP)	81
A. CONCEPT OF GOOD MANUFACTURING PRACTICES	81
B. REQUIREMENT AND INSPECTION METHODS	83
CHAPTER VIII GOOD MANUFACTURING PRACTICES INSPECTION	85
CHAPTER IX SUCCESSFUL DURIAN FARMER	92
CHAPTER X MARKET CHANNELS OF DURIAN	95
A. MARKET CHANNELS	95
B. IMPORTING COUNTRIES	97
CHAPTER XI SWOT ANALYSIS OF DURIAN PRODUCTION	102
CHAPTER XII MATRIX ANALYSIS	113
CHAPTER XIII CONCLUSION	116
LITERATURE CITED	117
INDEX	121
ABOUT AUTHOR	124

LIST OF TABLES

Table 1.Agricultures and food product export value in 2008 to 2012.....	2
Table 2.Thailand Total area, production, and farm value of durian in 2003-2012	4
Table 3.Chanthaburi durian's total area, production and yield in 2008-2012.....	8
Table 4.Number of household and area	9
Table 5.Internal characteristic of durian mature	19
Table 6. Skill's needed on Farmer's Entrepreneurship	28
Table 7.Durian Exported by case	97
Table 8.Five Big Importing Countries	98
Table 9. Matrix Form of Constraint, Causal, Impact, and Solution in Durian Production in Chanthaburi Province, Thailand	115

LIST OF FIGURES

Figure 1. Thailand Area trendline.....	5
Figure 2. Thailand Production Trendline	5
Figure 3. Chanthaburi Area Trendline	8
Figure 4. Chanthaburi Production Performance.....	9
Figure 5. Visiting OARD Region 6	12
Figure 6. Monthong	14
Figure 7. Chanee	15
Figure 8. Kanyao	15
Figure 9. Kradoomtong	16
Figure 10. Puangmanee	17
Figure 11. The Ladder of Intension and Reason on Farming	26
Figure 12. Organization structure of DOA (2014).....	41
Figure 13. Profile of Office of Agricultural Research and Development Region 6	42
Figure 14. Label on the durian tree (Chanthaburi 1, Replication 2, Treatment 1)	45
Figure 15. Organization structure of OARD Region 6	54
Figure 16. Certification process	61
Figure 17. Certification Letter.....	62
Figure 18. GAP inspection towards GAP certification process	63
Figure 19. Water resources.....	65
Figure 20. Plantation area of durian	66
Figure 21. Distribution of fertilizer and inspect the chemical storage.....	70
Figure 22. Phythphora infest	71
Figure 23. Durian tree close with mangosteen.....	71
Figure 24. Harvest Handlings	72

Figure 25.Product Holding	73
Figure 26.Data record of orchards farm.....	74
Figure 27.Good Agricultural Practices Model in Orchard	75
Figure 28.GAP discussion and inspection	78
Figure 29.Grading for export.....	79
Figure 30.Durian packing house condition	86
Figure 31.Lighting in packing house.....	87
Figure 32.Packing of durian	88
Figure 33.Interview in terms of data record and managerial	89
Figure 34.Organization structure on the packing house	89
Figure 35.Packing Activity	90
Figure 36.Containers of durian marketing transportation.....	91
Figure 37.Successful farmer.....	92
Figure 38.Market channel of fruit	95
Figure 39 .Map chart and trend of China’s durian imported	100
Figure 40.Map chart and trend of Hongkong’s durian imported	100
Figure 41.Map chart and trend of Taiwan’s durian imported.....	101
Figure 42.Map chart and trend of Indonesia’s durian imported ..	101
Figure 43.Map chart and trend of Vietnam’s durian imported	101

CHAPTER I

INTRODUCTION

***

Thailand is one of important agricultural countries in the world. Thailand has some important role in supplying agricultural product as raw material. Developing of agricultural sector become the main concern of government. In order to increase the quality and quantity of agricultural product in the whole kingdom, the government and the stakeholders create the Thailand Agricultural Standards as the national standards for agricultural product. This standard become the strategy on increasing agricultural sector capability towards agricultural competitiveness in the world market.

The importance of agricultural sector can be seen in the export value performance of agriculture and product in Thailand from 2008 to 2012 as shown in the Table and Figure below. There was an increasing agricultures and food product export value from 797,613 million bath to 993,8361 million bath in 2012. The decreased performance occur in 2009 around 2.6%.

Table 1. Agricultures and food product export value in 2008 to 2012

Unit: million bath	
Year	Quantity
2008	797,613
2009	776,677
2010	823,554
2011	987,515
2012	993,861

Source: OAE (2013)

According to OAE (2013) there are some important fruits in Thailand including durian, longkong, lecyee, longan, mangosteen, rambutan, and banana. Durian or *Durio zibethinus* known as King of Tropical Fruits. Asian country become the main producer of this fruits because of the appropriate climate and topography. According to Mangkeb, et all (2012), Thailand is the world's largest producer and exporter of durians, followed by Malaysia and Indonesia. Total quantity of durian export around 289,664,954 kg with total value more than 5,589 million bath.

Thailand total area, production, and value of durian performance as shown in Table below pointed out that there was relation between total area and total production of durian. Durian total area has decrease during 2003 to 2012 around 25% from 855,535 rais to 637,737 rais. While the total production of durian has decreased around 26.8% during those time from 738,685 tons to 527, 327 tons. However farm value of durian has increased performance every period accounting for 21.5%. while since 2012 to 2019, both

production of durian and total area of durian plantation increase every year. It could be indicate that farmers have high motivation to cultivate durian for their farm.

The high interest in durian in the global market is also an encouragement for farmers and stakeholders to continue to develop durian cultivation with a variety of cultivars and maintain the best cultivar they have. Monthong durian has the largest market share for Thailand, so it is only natural that this type of durian will continue to be developed. The area that continues to increase from 2012 is an indication that the Thai government continues to make it easy for farmers to open land and provide assistance so that farmers can progress together.

Durian production, if we look at the table below, has experienced fluctuating conditions since 2003. However, since 2012 the trend of durian production can be said to have increased. Production does not only depend on the area of land that continues to be increased or decreased, but there are also factors of treatment from farmers and natural conditions that can support or even inhibit durian growth so that it cannot be maximized, one example is when the weather does not support or there are pests and diseases.

Table 2. Thailand Total area, production, and farm value of durian in 2003-2012

Year	Area (Rai)	Production (Ton)
2003	855,535	738,685
2004	873,643	831,182
2005	832,483	650,960
2006	815,302	622,934
2007	771,345	750,683
2008	725,955	637,790
2009	680,927	661,665
2010	662,070	568,067
2011	659,042	509,381
2012	637,737	527,327
2013	656,486	569,311
2014	730,007	672,930
2015	771,248	617,212
2016	803,317	546,989
2017	838,714	663,066
2018	879,813	759,828
2019	932,340	1,013,741

Source: OAE, 2013 – 2020

Meanwhile, when viewed from 2012 to 2019 data, the total area for durian cultivation in Thailand tends to increase. This is shown in the chart below. However, as happened in previous periods, durian production does not only depend on the area but also other factors, durian production from 2012 to 2019 has fluctuated, but the trend is still increasing.

Figure 1.Thailand Area trendline

Figure 2.Thailand Production Trendline

If viewed from the graph above, it can be seen that the performance of durians in Thailand is experiencing an increasing trend. It is undeniable that the roles of various sectors as seen in the 2013/2014 observations are still ongoing today. What cannot be denied is the existence of technological interventions implemented in the garden, the role of farmers who continue to strive to maintain the quality and

productivity of durians, and also the role of agricultural extension workers who are from the beginning fully committed to safeguarding Thai durian commodities to remain stable and even have performance, which is increasing on the international scene. Not only has production increased over time, although several periods had decreased. This was also followed by an increase in the area of the durian garden.

Based on Krasechat (2012), approximately 98% of total production was domestically consumed and the rest was exported. Although both the volume and value of Thai durian was increased, to sustain the demand and supply chain of exported durian there are at least three concerning point of future development in Thailand durian production. It including 1) durian majority cultivated by small farms. 2) durian has been mostly sold in domestic consumption and 3) Thai government has significantly influenced Thai agriculture through a variety policies over the past several decades.

According to Datempumee (2019) the province that has the potential for durian production in Thailand is Chanthaburi Province. It was conveyed that more than 90% of the exporters owned plantations and packaging for durian products in Chanthaburi. Furthermore, as one of the producers of durian, according to OAE accounting for 39% or approximately 206,175 tons of total durian production in the whole kingdom was from Chanthaburi Province. As shown in Table 2 below, total area of durian in Chanthaburi Province in the last 5 years (2008 to 2012) has dynamic performance tends to decrease. It also related with decreasing in total production

and yield of durian. In 2008 total production of durian around 243,808 tons based on 210,828 rais area, has decreased to 210,990 tons based on 184,412 rais.

However, after 2012 to 2019 it can be seen from the table and the performance of the graph below shows that there is an increasing trend. If viewed from 2012, the area for durian planting in Chanthaburi Province reached 188,125 rai to 225,273 rai in 2019. This is also in line with the production that can be achieved, namely when 2012 was 206,175 tons of durian and increased in 2019 to 339,292 tons. This increase in production could reach more than one hundred tons during that time. When viewed from the performance in the area table and production table below, it can be seen that the trends of the two are almost in line, however in 2016 when the area experienced an increase, production fell. This is in line with the fact that production in agriculture has various factors that can influence it. Although the area increases, it does not mean that production will also increase, but to prevent this from happening, of course, treatments are needed to maintain production.

Table 3.Chanthaburi durian’s total area, production and yield in 2008-2012

Year	Area (Rai)	Production (Ton)
2009	183,551	217,194
2010	184,412	210,890
2011	186,209	224,755
2012	188,125	206,175
2013	185,662	223,889
2014	192,591	243,263
2015	197,143	234,513
2016	203,170	187,790
2017	207,483	284,874
2018	212,213	279,075
2019	225,273	339,292

Source: OAE, 2009 – 2020

Figure 3.Chanthaburi Area Trendline

Figure 4.Chanthaburi Production Performance

Table 4.Number of household and area

District	Number of household	Area
Mueang Chanthaburi	799	1266.88
Khlung	3436	6281.60
Tha Mai	7736	10664.48
Pong Nam Ron	944	1840.64
Makham	3084	3741.28
Laem Sing	317	253.28
Soi Dao	87	80.80
Kaeng Hang Maesu	558	728.80
Na Yai Am	1493	1157.12
Khao Khitchakut	2504	5528.00
Total	20958	31542.88

Source: APARI, 2018

Quoted from APARI (2018), there are several durian-producing areas in Chanthaburi Province Thailand, including Mueang Chanthaburi District, Khlung District, Tha Mai District, Pong Nam Rom District, Makham District, Laem Sing

District, Soi Dao District, Kaeng Hang Maesu District, Na Yai Am District, and Khao Khitchakut District. Of the 10 districts, the total number of farmer households that cultivate durian is more than twenty thousand farming families, where the highest is in the Thai Mai District, followed by Khlung District and Makham District. This is in line with the area in these districts, where Thai Mai District has a durian plantation area of more than ten thousand rai. The area with the next largest area is the Khlung district and the Khao Khitchakut district. Although the number of farmers growing durian in Khao Khitchakut District is not as much as in Makham District, the area is almost equal to Khlung District. This shows that farmers in Khao Khitchakut District have quite large landholdings.

Decreasing both total area and total production of durian in Chanthaburi has relation with decreasing in in whole kingdom. It can be conclude that Chanthaburi Province is the main producer of durian in Thailand. Chanthaburi durian's performance can affect in Thailand durian performance. Chanthaburi has big potential in orchard production especially durian. The decline in production at Chanthaburi must certainly be a concern because it can have a long-term impact on the certainty of the export market which has been Thailand's main goal in marketing their products. This potential is also supported by the existence of a research center that houses many researchers to provide assistance and training for farmers.

In Chanthaburi Province support with Office of Agriculture Research and Development Region 6 that work under Department of Agriculture which mainly focus on tropical fruits. This institution helps the farmer to get the appropriate technology to encourage the farmer. Research and transfer technology become the mission of this institution. In addition, Thardphaiboon (2012) stated that Chanthaburi Province has some advantages in durian production including physical factors, availability of local wisdom and skilled and experienced growers, and various market channels. Chanthaburi also has one kind of festival towards durian promotion in the world market as the advantages sector to promote durian as export commodity.

While according to Datempumee (2019), several factors that can affect the performance of durian production for export in Chanthaburi, among others spread of pest, fruit thinning, maturity inspection, training attendance, application of fertilizer during fruit development, pruning, income, and soil texture. The quality of durian is important to be one of the driving factors for farmers to cultivate durian in a sustainable manner. This is because the share of the export market always wants the best quality fruit. Further, this book will discuss how the impact of attendance from training and mentoring to farmers by extension workers under OARD Region 6 Chanthaburi Province.