



**RESEARCH ON COUNTERMEASURES OF RICE INDUSTRY
DEVELOPMENT IN THAILAND UNDER THE “THE BELT AND ROAD”**



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Thematic Certificate

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ABSTRACT

Title: Research on Countermeasures of Agricultural Development in Thailand Under the “The Belt and Road”

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Thailand rice sector has played a major role in the growth of nation’s economy. While The Belt and Road project provided a great opportunity to increase the level of competitive advantage. In recent years, the cost of rice producing has increasingly grown and competitors produce in large scale and decline the exported rice prices like India and Vietnam, which results in less advantage of Thai Rice. Under the complex and changeable market environment and the increasingly fierce international competition, the export of Thai rice is facing a severe challenge.

The objections of this paper were to discuss a development of rice industry, agriculture management system, policies and obstacles. This paper analyzes the impact of Thai rice planting and trade domestic, international factors and market conditions, combined with the current production of Thai rice for SWOT analysis. Also, outlined the effects of The Belt and Road project toward Thai agricultural products.

The finding has shown that Thai government was required to improve plans and measures for the development of the rice industry. Also, reduce rice production costs, increase government support, promote agricultural modernization, implement deep processing strategies to increase product added value, and use the “The Belt and Road” initiative to actively expand the foreign trade market to enhance cooperation Levels to

achieve the sustainable and healthy development of Thailand's rice industry.

Keywords:Thailand, Rice industry, Export trade, The Belt and Road



摘 要

题 目： “一带一路”倡议下泰国大米业发展对策研究

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26 / 7 / 2018

在“一带一路”项目中提供了提高竞争优势水平的绝佳机会。近年来，大米生产成本增加，竞争规模大，并且下降了印度和越南等出口大米价格，导致泰国大米的优势减少。在复杂多变的市场环境和利益激烈的国际竞争中，泰国大米出口面临严峻挑战。

对造纸行业的对象分析，政策和障碍。本文分析了泰国水稻种植和国内贸易，国际因素和市场条件的影响，结合目前泰国大米生产用于 SWOT 分析。此外，概述了“一带一路”项目对泰国农产品的影响。

这一发现表明，泰国政府必须改进稻米产业发展的计划和措施。同时，降低水稻生产成本，加大政府支持力度，推进农业现代化，实施深加工战略，提高产品附加值，利用“一带一路”倡议积极拓展外贸市场，提升合作水平，实现可持续发展泰国稻米产业的可持续发展。

关键字：泰国，大米产业，出口贸易，一带一路，SWOT

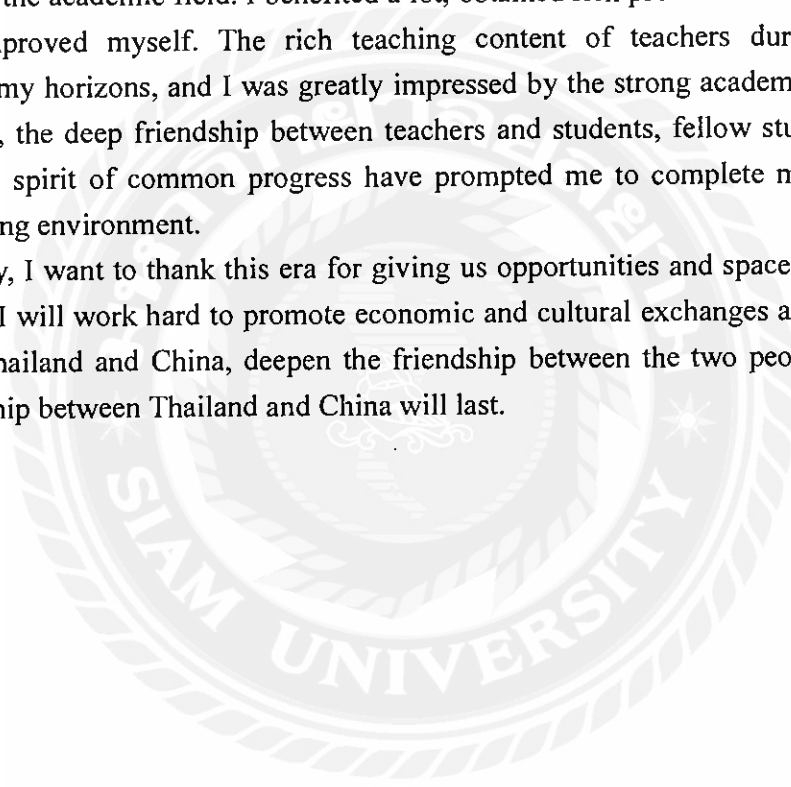
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Time flies, time flies, and the pace of graduation is getting closer and closer. Siam university is beautiful and tolerant, it is reminiscent of people. She is like an amiable mother and provides us with a good learning atmosphere and living environment. In these two years, I have had a lot of harvest and I have given thanks for my thanksgiving life.

First of all, I would like to thank my parents for their economic and spiritual support and for keeping me going.

Secondly, I would like to thank the teachers of the MBA at Siam University for teaching in the academic field. I benefited a lot, obtained rich professional knowledge and quickly improved myself. The rich teaching content of teachers during my study broadened my horizons, and I was greatly impressed by the strong academic atmosphere. In addition, the deep friendship between teachers and students, fellow students, and the progressive spirit of common progress have prompted me to complete my studies in a good learning environment.

Finally, I want to thank this era for giving us opportunities and space for growth. In the future, I will work hard to promote economic and cultural exchanges and cooperation between Thailand and China, deepen the friendship between the two peoples, and wish the friendship between Thailand and China will last.



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CHAPTER 1

INTRODUCTION

1.1 Background and Significance of the Study

Thailand is a typical agricultural country. About 80% of the country's population is engaged in agricultural production. Most of the country's land is planted land. The terrain is mainly plain, which is very suitable for the development of agriculture, especially the cultivation of rice. "Export plays an important role in promoting the development of Thailand's economy and is very important to the development of Thailand's economic system" (Panitnat,2010). Rice is the most important product in Thailand, and it is also an important source of people's livelihood and the main income of 3.7 million Thai farmers.

Thailand is an important rice exporter in the world. It is known as the "Asian rice warehouse" and has an important influence on the development of the world rice industry. As of 2016, Thailand's annual rice export revenue has exceeded 4 billion U.S. dollars. However, under the global economic downturn, declining rice prices in the world market and pressure from competitors, Thai rice is still facing severe challenges. Vietnam and India are strong competitors in the rice export market. Vietnam's rice planting area is similar to Thailand's, but Vietnam's labor costs are lower, so the cost of planting is low. In recent years, the export volume of rice in India has increased significantly, and it even replaced Thailand as the world's first rice exporter.

Under this background, based on the analysis of the development characteristics, export status, and competitors of Thai rice industry, SWOT analysis method was used to analyze the strengths, weaknesses, opportunities, and challenges of Thai rice industry, and proposed the development strategy of rice industry. It is of great theoretical and practical significance to maintain the international competitiveness of Thailand's rice production and exports and Thailand's long-term economic growth.

1.2 Research Dynamics

Li (2011) The main analysis is that Thailand's rice exports continue to decline, due to the relatively high Thai rice production costs, but also facing the appreciation of the Thai baht and Vietnam rice competition. Thailand's rice exports are beginning to increase from the point of reducing production costs, controlling the appreciation of the Thai baht, increasing the production per unit area, and the Vietnamese government's policies.

Xia (2012) proposed an analysis of the unfavorable factors of rice transport in Thailand. He believes that the transit of Thai rice through the Bangkok and Lanhang ports will result in a higher production cost of Thai rice. Therefore, transportation costs and time costs need to be reduced.

Gong (2013) analyzed that Thailand's rice exports ranked third in the world in 2012, mainly because the Thai government adopted the rice procurement policy, resulting in a decline in Thai rice exports, and directly pushing up Thai rice purchase prices. The main reason is that the Thai government adopts the rice procurement policy, resulting in a decline in Thailand's rice exports and directly pushing up Thai rice purchase prices, which will lead to the weakening of Thai rice's competitiveness in the world market.

Li (2015) used the revealed comparative advantage (RCA) to analyze Thailand's rice exports. The results of the study show that although Thai rice exports rank among the top in the world, the export process also faces market issues and government management policies. The study proposed strategies and recommendations from improving the quality and efficiency of rice production, optimizing rice varieties in Thailand, accelerating product innovation, irrigating land use, enhancing rice processing products, exploring new markets, and maintaining political stability.

Yan (2010) believe that trade relations within the ASEAN region will change with the establishment of the China-ASEAN Free Trade Area, and that ASEAN countries may adopt different countermeasures based on this change. At present, China, as an economic power, dominates the economy of the ASEAN region with its own strength. This fact is recognized by the entire ASEAN countries and actively adjusts its economic strength to move closer to China. In terms of trade competitiveness and complementarity, export competition or complementarity between countries mainly depends on changes in export industries and production technologies, and economic transition is also one of its key factors.

He (2016) studied the reasons why organic rice is favored by consumers, the factors that hinder the export of organic rice in Thailand, and how Thailand's organic rice occupies domestic and foreign markets. She also analyzed the Thai organic rice exports using SWOT analysis. Targeted development measures for the export of organic rice in Thailand were also proposed.

Wang (2015) Under the background of “the Belt and Road”, the Sino-Thai

agricultural industrial chain cooperation industry and micro-level perspectives were studied. Research shows that the structure of Sino-Thai agriculture commodities tended to be more of complementary than competitor by calculating trade competitiveness index and export product similarity index of agricultural commodities, which proved that agricultural industry is quite suitable for cooperation.

Wang (2016) research shows that Sino-Thai cooperation is a win-win situation, focusing on the ways in which the

Two sides cooperate. A four-point proposal: the first is under the background of “One Belt One Road”, looking for both docked points in the relevant fields; the second is to increase bilateral efforts to open markets, expand areas of cooperation; the third is learn from each other from the congenital constitution resource point of view; the fourth is to strengthen cooperation in the financial sector.

1.3 Research Methods and Content

1.3.1 Research methods

1. Comparative analysis. The advantages and problems of Thai rice in production and export trade can only be discerned when compared. This article compares the advantages and disadvantages of Thailand and its competitors in terms of production, policies, and trade.

2. Literature research method. Research on relevant literature includes the development of the rice industry in related countries, production, consumption, policies, and trade.

3. Empirical analysis; Thailand's rice industry development strategy research must be based on the basis of empirical analysis, research based on objective facts has its value, and only in this way can objectively demonstrate the advantages and potential of Thailand's rice industry and its deficiencies.

4. SWOT analysis. Through SWOT analysis, various factors influencing Thai rice exports are identified.

1.3.2 Research content

1. Introduce Thailand's rice industry production status, export trade situation,

analyze its trade advantage and breed advantage, agricultural management system, opportunities and challenges of Thai agriculture under the “the Belt and Road” initiative. Then analyze the development of Thai rice industry.

2. SWOT analysis of Thai rice industry development. In view of the actual situation of rice in Thailand, the rice industry's strengths, weaknesses, opportunities, and challenges are thoroughly analyzed to explore the potential and problems of Thai rice development.

3. Strategy analysis of Thai rice industry development. Based on the SWOT analysis, a strategic analysis of the Thai rice industry development will be provided for the development of Thai rice.



CHAPTER 2

THE THEORETICAL BASIS OF THE STUDY

2.1 The Concept of Research and Basic Theory

2.1.1 Agriculture and SWOT concepts

Agriculture is the foundation of the national economy. Agriculture plays an important role in increasing farmers' income and promoting economic development. Thailand's main agricultural products are rice, sugar cane, cassava, rubber, corn, fruits, vegetables, etc. It is the world's number one exporter of rice and cassava, exporting rice and cassava respectively account for 25% and 85% of the world's total exports. 60% of agricultural income comes from crops, and the rest comes from aquaculture, animal husbandry, rough processing of agricultural products and agricultural services(Jiao,2010).

Agriculture is the foundation of the national economy. Agriculture is increasing farmers' incomes, boosting economic growth.

SWOT is an abbreviation for the first letter of four English words (advantages, disadvantages, opportunities, threats), respectively: S, advantage; W, disadvantage; O, opportunity; T, threat. (Xue,2011).The SWOT analysis refers to the analysis of the four types of factors that closely influence the research subjects using the methods listed in the survey. Then the matrix analysis method is used to match the various factors in pairs, and the newly generated results are analyzed to obtain the results. A series of analysis methods, these analytical methods need to have a certain degree of decision-making.

2.1.2 Mailer's theory of complementary resources

In various stages of agricultural development, Meller's theory of complementary resources is the most prominent. The American economist Mailer put forward the theory of complementary resources in 1966. Based on the nature of agricultural technology, this principle divides the agricultural development process into three phases, reflecting the transformation from traditional agriculture to modernity. In the first stage, traditional agriculture, this development is very backward, also known as the stage of technological stagnation. The second phase is transition phase. At this stage, agricultural development is focused on increasing land productivity. Agriculture is still the largest economic industry. It plays a key role in the overall economic development. At the same time, industrial capital remuneration increases, but

resources for development are scarce. The main features of this stage are: The labor force is sufficient and the capital is lacking, so the use of labor-saving agricultural machinery is limited. The third stage is the stage of modern agricultural development. This stage summarizes the following features: First, the proportion of agriculture in the entire economy and society is getting smaller and smaller during this stage, and its importance is greatly reduced. Second, capital is very abundant. Agricultural development can use large amounts of capital. Third, agricultural mechanized production has become the norm. At present, agriculture in many developing countries is in the second stage. Meller believes that in this step, agricultural development should pay attention to the use of inputs complementary to the labor force. These mainly include the provision of stimulatory systems, the establishment of agricultural research institutions, the introduction of new material products, the establishment of production service systems, and investments in education(Edwards ,2002).

2.1.3 Regional advantage theory

Adam Smith(“Research on the Causes of National Wealth and Nature”) discusses the relationship between economic development and social productivity, so that people begin to attach importance to the economic impact of factors such as the natural environment, the level of science and technology, the region that affects division of labor, and social productivity. The study of regional superiority theory is of great significance to agricultural development. Agricultural production is more dependent than other industries on the natural environment and other factors. Regional advantage theory consists of comparative benefit theory and factor endowments.

The theory of comparative benefits refers to the production of multiple products of different types in many different regions. There must be the most favorable conditions for a certain product to have an inherent advantage over other products in this region. Therefore, each region will choose to develop products with the greatest advantages in the region, while other regions will choose the products with the most favorable conditions in their regions, so as to achieve a natural division of labor. Applying this theory to the international community means that each country will use its resources and the products that are used to develop its easiest-to-gain benefits, and earn maximum revenue by exporting such products and importing products that are difficult for the country to gain interest. The international division of labor formed in this way has motivated each family to make effective use of its own resources and to make traders mutually profitable through trade exchanges.

The Swedish economists Eli Heckscher and Bertie Ollin used the comparative benefit theory as the basis, and put forward the factor endowment theory, pointing out that in each production area, there are various resource elements such as labor force, capital, technology and so on. However, each region has relatively abundant elemental resources in the region and relatively scarce elemental resources. When factor source exchange is performed between different regions, the proportion of supply of one element in one regional element endowment is greater than that of the same element in other regions, and the price of such element in the region will be lower than the price of the same element in other regions. This shows that the resource of the elements in this area is relatively abundant. In contrast, if the supply ratio of an element in one area is smaller than the supply rate of the same element in another area, the price of that element will be higher than the price of the same element in other areas, indicating that the element in the area is relatively lacking.

The theory of regional advantage has become the basis and core of agricultural economic development. Agricultural production is more dependent on objective resources, but different regions are not the same. Comparative efficiency theory and factor endowment theory provide a good explanation of the relationship between resources and industrial development, so it can guide agricultural production. Each region has different resources, so there will be price differences between different regions. Take agricultural production as an example. If a certain region has abundant labor resources, more surplus labor can be added to agricultural students to develop agricultural labor-intensive models. If the technology in a certain area is relatively advanced, advanced agricultural technology can be used in agricultural production to develop high-tech agricultural models. Therefore, the use of comparative efficiency theory and factor endowment theory, the use of the region's resource advantages, lower production costs, the formation of regional industries, and enhance product competitiveness in the market.

2.2 International Rice Exporting Countries Policies and Experiences

In the world rice market, the demand for rice varies from region to region. Thailand will introduce new varieties of rice according to the needs of different markets. In 2005, the market would be expanded to promote rice to markets in Japan, Korea, Hong Kong, Singapore and Taiwan. Especially introduced the excellent varieties of Japanese rice. At the same time, rice exports are growing rapidly. Pakistan also places considerable emphasis on the cultivation of high-quality rice. Among them, Marti rice planted in Pakistan is said to be the best rice in the world because of its

excellent quality (Tian, 2013). China's rice has no comparative advantage compared with India, Pakistan, Thailand and Vietnam. (Hu, 2006).

Thailand's rice export has a clear dominant position in the world market. This is due in large part to its good quality management system. Thailand has strictly followed the selection of rice varieties, processing, and quality testing. Quality and safety standards implementation management (Bai,2012).

In many fields such as production and sales, Thailand needs more policies and cooperation to improve the welfare of farmers and the efficiency of the rice industry. For example, available high-yield organic fertilizers are still too expensive for poor farmers; advanced imported capital equipment is not suitable for the topography of Thailand; research and development are needed to produce cheap and appropriate capital equipment in the country; The development of Thailand's manufacturing industry has led to a shortage of agricultural labor; the upgrading of advanced irrigation systems, the establishment of agricultural cooperatives, and the reduction of production and sales costs(Vinit, 2001).

When the government's policy is to increase the enthusiasm of producers, and remove export barriers, simplify the import and export marketing system, and strengthen scientific research and infrastructure investment, rice production and export volume can be increased.(Prabhu,1997).

CHAPTER 3

ANALYSIS OF THAI RICE STATUS

3.1 Rice Industry Situation

3.1.1 Geographical location and natural resources

Thailand is located in the south-central part of the Indochina peninsula in Asia. It faces the Pacific Ocean in the east and the Indian Ocean in the southwest. Most of the country is in a tropical monsoon climate. Thailand is divided into hot, rainy and cool three seasons throughout the year, from November to February, which is the cool season. From March to May, the highest temperature is the hot season, and from June to October is the rainy season. During the year, the rainy season lasted the longest and provided protection for Thailand's abundant rainwater resources. The average annual rainfall was about 1000 mm. In addition, Thailand's light and heat resources are also relatively abundant, providing good climate for Thailand's agricultural development, especially for rice production.

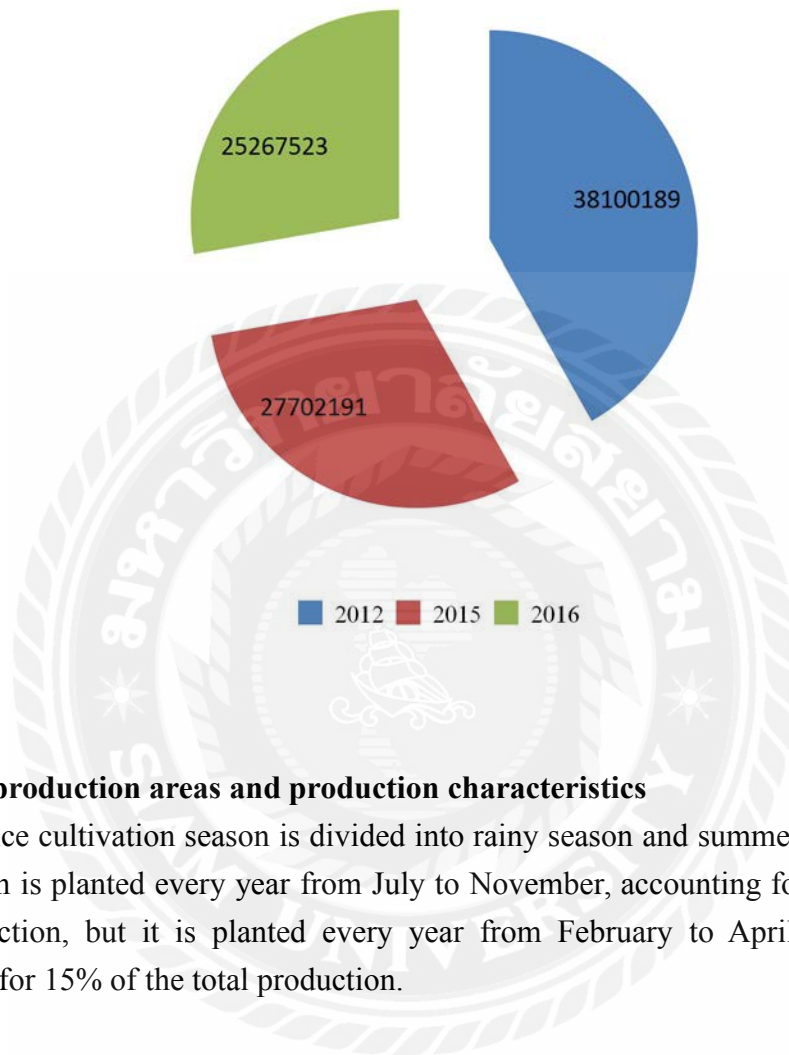
Thailand has a national land area of 514,000 km², of which land area is 51.08 million km². The widest distance is 780km from east to west. The terrain is high in the north, low in the south, and mainly in the plains. The area of agricultural land is 19.75 million km², including 15.2 million km² of arable land, 800,000 km² of permanent grassland, and 14.4 million hm² of forest land. The total amount of available water resources is 410 billion m³/a, per capita is 6462 m³/a, and the annual water consumption of agriculture is 82.8 billion m³, accounting for 95% of the total water consumption. Rich natural resources have laid an important foundation for agricultural production.

3.1.2 Agricultural structure and development status

Thailand's agricultural structure is dominated by planting, with the proportion of plantation accounting for about 60%, and animal husbandry and fishery accounting for 11% and 12%, respectively. In the planting industry, rice accounts for the first place, accounting for 26.1% of the total agricultural output value. The value of natural rubber of important economic crops accounts for 11.9% of the total agricultural output value (Wang,2017). The rice industry plays an important role in Thai agriculture. Rice fields account for 52.0% of the country's arable land. Farmers engaged in rice production account for 77.5% of the total. In 2016, rice production in Thailand was 25.27 million tons, which was a year-on-year decrease of 8.8% and a decrease of 33.7% from 2012.

Figure 3-1 Paddy production in Thailand in 2012, 2015 and 2016

Rice Production (T)

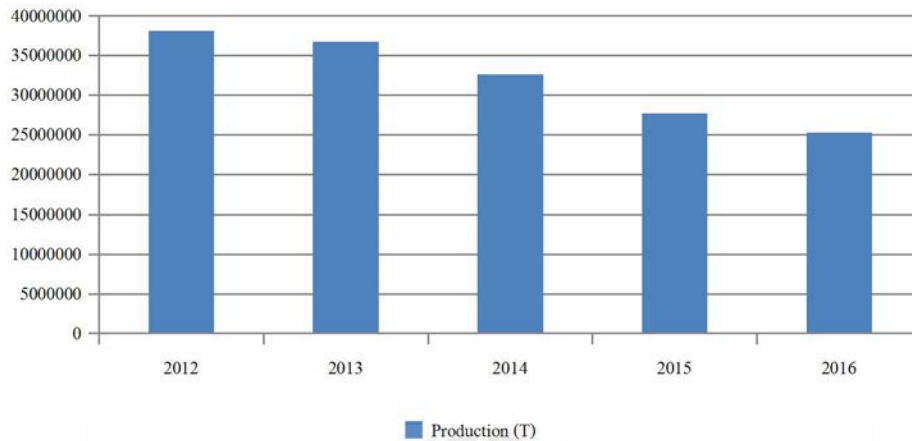


3.1.3 Rice production areas and production characteristics

Thai rice cultivation season is divided into rainy season and summer season. The rainy season is planted every year from July to November, accounting for 85% of the total production, but it is planted every year from February to April in summer, accounting for 15% of the total production.

Figure 3-2 Thai rice production from 2012 to 2016

Rice Production (T)



Source: FAO website

Thailand is geographically divided into six regions: north, central, northeast, west, and south. While the rice cultivation areas are mainly in the northeast, central, northern and southern regions. Different regions have different rice cultivation characteristics and environment. The classification and characteristics of Thai rice production areas are shown in the table 1.

Table 3-1 Classification and Characteristics of Rice Production Areas in Thailand

| Rice production area | The characteristics of the producing areas |
|----------------------|--|
| North-east area | The northeast region is a plateau and relatively dry, accounting for 45% of the country's cultivated area. Compared with other regions, the rice planting area in this area is the highest, but the output is the lowest in the country. On the contrary, the population is the most dense. This area is the main planting area for Thai fragrant rice, which is grown primarily for sale. |
| Central Region | The region is the plain of the Zhaopina River, which accounts for 26% of the country's cultivated area. Its output has reached 31%, The minority owns most of the land. Since the area not only has good irrigation but also grows light-insensitive rice, it is a concentrated production area for Thai rice. |
| Northern region | The area is divided into the plain area and the northern low area, which accounts for 22% of the country's cultivated area. Despite the fact that there are many people in the |

| | |
|-----------------|---|
| | area, the economic level is booming. Compared with other areas, irrigation in the area is relatively good, so rice production in the region is the highest in the country. |
| Southern region | The area is divided into the Malay Peninsula and the southern mountains. Compared with other producing areas, the rice planting area in this area is the smallest, accounting for only 7% of the country's cultivated area. The southern region is dominated by cash crops. |

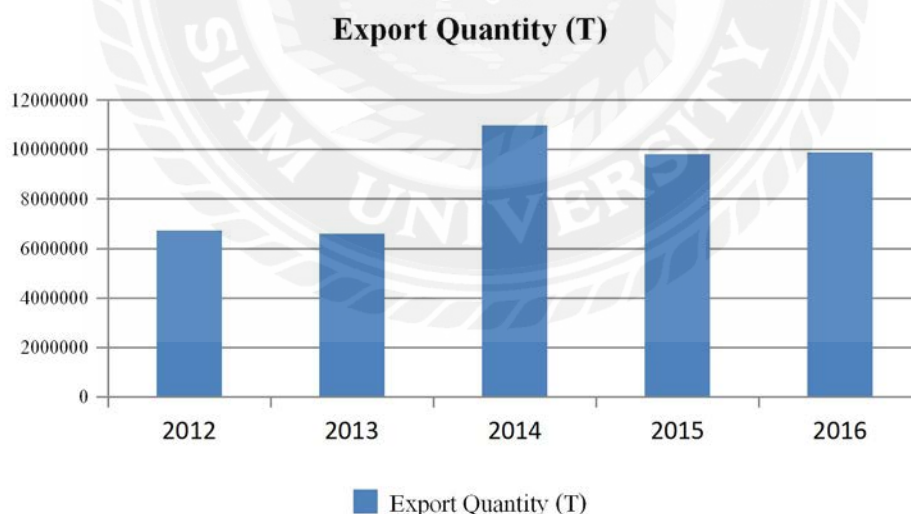
Source: Thailand Rice Trade Department

3.2 Rice Trade Situation

3.2.1 Rice exports

Natural rubber and rice has always been one of the important sources of Thailand's export earnings. Rice is the top priority for Thailand's export of agricultural products, accounting for more than 25% of the world's rice trade, and it has been consistently ranked first in the world market.(Wang,2008). 2012-2016(Wang, 2008), In 2012-2016, Thailand exported 8.898 million tons of rice annually.

Figure 3-3 Total Thai rice exports from 2012 to 2016



Source of data: Thai Ministry of Commerce, Export Promotion Agency

3.2.2 Thai rice's position in the international market.

In recent years, Thai rice exports are under pressure from India and Vietnam. Both countries have lower production and export prices than Thailand. According to

the statistics of the Ministry of Commerce of Thailand (pictured), Thailand's rice exports amounted to 6.73 million tons in 2012, a decrease of 37.13% compared with 10.71 million tons in 2011, a significant reduction; According to the statistics of the Ministry of Commerce of Thailand (pictured), Thailand's rice exports amounted to 6.73 million tons in 2012, a decrease of 37.13% compared with 10.71 million tons in 2011, a significant reduction; India, with 11.025 million tons of export volume, for the first time leaped to the top of the world's rice exports, accounting for 20.53% of the world's total rice exports. From 2012 to 2016, Thailand's rice exports were 6.73 million tons, 6.61 million tons, 10.97 million tons, 9.8 million tons, and 9.88 million tons respectively, accounting for 17.20%, 16.74%, 24.87% , 22.98%, and 24.46% of the world's total rice export respectively. Due to the current slowdown in the world economy and the increasingly fierce competition in the global rice market, The demand for imported Thai rice will continue to fall in all countries of the world.

3.2.3 Major trading partners

In 2016, the main partners of Thai agricultural trade cooperation are: ASEAN, EU, China, the United States, and Japan, but the main export market for rice is Africa(Zheng, 2017).

In 2016, Thailand's rice exports were 9,883,300 tons and rice was exported to more than 150 countries. The top six trading partners were Benin, China, Cote d'Ivoire, South Africa, Cameroon, and the United States, which accounted for 14.38%, 10.46%, 7.05%, 5.80%, 5.08%, and 4.76% of Thailand's total rice exports.

3.3 Thai Agricultural Management System

Agricultural cooperatives play a very important role in the development of Thailand's agricultural economy. They have greatly assisted members in selecting seeds, providing agricultural technology, providing low-cost fertilizers, deep processing of products, and product sales. To promote agricultural development, the Thai government has advocated the formation of nearly 4,000 agricultural cooperatives, including agricultural cooperatives, fishery cooperatives, credit cooperatives, service cooperatives, savings cooperatives and land reform cooperatives. As of 2013, Thailand has set up 6,704 cooperatives with a total capital of 2.1 trillion baht, of which 3,732 cooperatives belong to agricultural cooperatives (203.2 billion baht in capital), and agricultural cooperative members make up 1/3 of the total number of farmers, with a total of 6.65 million people about.

Research institutions in universities and government agencies are the main forces for domestic research in Thailand (Chen, 2009). The results of the research institutions are mainly distributed by the Department of Agricultural Development to farmers, and through training courses, farmers are planned to be trained. In Thailand's research investment, government investment accounts for about 60%, and university, business, and non-governmental sectors account for about 40%. The Thai government attaches great importance to the research and development of biotechnology and has a relatively high level of research in the fields of agricultural biotechnology and medical biotechnology. Foreign scientific and technological cooperation is managed by the Ministry of Foreign Affairs, and the specific work is coordinated and executed by the Office of Technology and Economic Cooperation of the Prime Minister's Office(Ding, 2005).

3.4 Thai Government Formulates Policies Related to Rice Production

In the 1980s, the Thai government took measures to invest in agricultural irrigation and water conservancy facilities, greatly improved the infrastructure of Thai agriculture, further increased the rice production per unit area, and abolished the storage policy and began to export rice to neighboring countries. In order to stabilize exports and protect the interests of farmers, the government began to implement the “Warehousing and Allusions Plan” in 1986. In the rice harvest season, if the market price of rice is lower than the target price set by the government, farmers can use rice as a collateral to obtain a low-interest loan from the Ministry of Commerce, and the loan will be used for rice warehousing expenses, and wait for the export price to increase next year. To protect the interests of farmers. In the 1990s, the Thai government focused on the development of agricultural informatization, vigorously promoted high-tech agricultural technology, invested large amounts of funds to improve agricultural information networks, and trained high-quality agricultural technicians, which greatly increased the output of rice and reduced the cost of rice production. In 1995, in order to expand rice exports, the Thai government began to implement a comprehensive support plan for rice prices. In particular, after the Thaksin government came to power, it promoted the integration of rice industry and commerce, and acquired farmers' rice at a price higher than 120% of the market price, which stimulated domestic rice production in Thailand(Zhong, 2014). In 2008, after the Abhisit government came to power, it launched a rice price insurance plan in October 2009. The government bought farmers' rice at three different prices and implemented different levels of subsidies according to different purchase prices. Judging from the effect, the Abhisit government's diversification stimulus policy is more reasonable than the Thaksin government. The government not only saves the

cost of warehousing and operation, but also respects the dominance of the market for rice prices. Farmers can respond accordingly to market changes. Obtaining insurance subsidies is more conducive to protecting the interests of farmers. Afterwards, the British government introduced the rice pledge policy, and in October 2011, it purchased farmer-grown rice at 40% above the market price, instead of rice, resulting in a huge fiscal deficit for the government. From 2011 to 2014, the Thai government reached nearly 200 billion baht due to the acquisition of rice, and only the rice in the Polished rice and fragrant rice stocks reached 26 million tons, which eventually led to the failure of Thai rice destocking plan(Xu, 2014). Since January 2015, Thai rice prices have fallen and exports have risen rapidly. However, till today, Thai rice stocks are still relatively large.

3.5 Problems

3.5.1 Faced with fierce international competition

First, facing pressure from India and Vietnam. At present, the main competitors of Thai rice are: India, Vietnam. The Thai government subsidized the cultivation of rice. Although it increased the domestic rice farmers' enthusiasm for production, on the other hand, it also boosted domestic rice prices and weakened their international competitiveness. In particular, mid- and low-grade rice encountered low levels in countries such as India and Vietnam. Price competition. The Thai government's subsidy on rice cultivation has increased the domestic rice farmers' enthusiasm for production, but on the other hand, it has also boosted domestic rice prices and weakened their international competitiveness. In particular, mid-range and low-grade rice encountered low-price competition in countries such as India and Vietnam. Obviously, India and Vietnam will become the “strong rivals” of Thailand's mid-to-low rice exports in the coming years.

India has now become the world's first rice exporter. The rise in Vietnam's rice exports was mainly due to the Vietnamese government's comprehensive plans for rice production and exports. For example: to improve the quality of rice production and the impact of rice on the international community, increase the planting area of rice, and strengthen the management of exported rice. In 2016, the export volume of rice was 7.31 million tons, an increase of 41.25% over 2012. (FAO) Vietnam's rice exports are divided into high quality and low quality categories. The rice is exported to Asia, Africa, Europe, and Oceania. It has an important position in the world market, especially in the Asian market. At present, the competition between rice in Vietnam and Thailand has become increasingly fierce, and Thailand's rice market has been hit. As a result, Thailand began to transform its rice sales strategy to sell steamed rice to

Africa and the Middle East. The production process of steamed rice depends on superb production technology. In terms of high technology, Vietnam cannot produce large quantities in a short time, so the amount of steamed rice exported is small, but it is expected that Vietnam will participate in the competition of steamed rice exports in the near future. .

Second, the gap in the variety of products has narrowed. In 2016, the United States and Cambodian rice ranked second only to Thailand in the eighth “World's Best Rice Award” selection campaign. The future of international rice market competition will be fiercer.

3.5.2 Serious shortage of high-end rice export products

At present, the prices of medium and low rice in Thailand are much higher than those in India, Vietnam, and other countries, resulting in a severe squeeze in market share. The export of Thai rice is dominated by medium and low grades, and the proportion of Jasmine fragrant rice exported to the world is relatively limited. It can be seen from Table 2 that the export volume of white rice was the highest in 2012-2016, with an average value of 13.622 million US dollars, accounting for 34.8% of the total export volume. Followed by fragrant rice, steamed rice, broken rice, broken rice and brown rice.

Table 3-2 Thai Rice Different Kinds of Export Values and Averages 2012-2016(Unit: Million Dollars)

| years | Fragrant rice | White rice | Glutinous rice | Steamed rice | brown rice | broken rice |
|------------|---------------|------------|----------------|--------------|------------|-------------|
| 2012 | 1526.61 | 1363.95 | 97.31 | 1191.07 | 61.17 | 392.17 |
| 2013 | 1704.63 | 1319.01 | 120.17 | 868.85 | 54.6 | 353.08 |
| 2014 | 1398.03 | 1952.56 | 116.01 | 1427.67 | 66.27 | 478.18 |
| 2015 | 1329.12 | 1851.51 | 95.9 | 893.56 | 52.11 | 390.71 |
| 2016 | 1206.24 | 1685.51 | 117.38 | 826.19 | 54.71 | 511.46 |
| average | 1194.105 | 1362.09 | 91.12833 | 867.89 | 48.14333 | 354.2667 |
| proportion | 30.48% | 34.77% | 2.33% | 22.15% | 1.23% | 9.04% |

Source of data: Thai Ministry of Commerce, Export Promotion Agency

3.5.3 Unreasonable export structure and increasing risks

First, rice exports are dominated by developing economies. Thailand's rice exports target mainly Africa and Asia, with about 80% concentrated in developing economies and only 20% in developed regions. The economic level of most countries in the export area is low, resulting in a low level of rice consumption, mainly in the middle and low grades, and limited trade interests. Second, in recent years, the competition for low-priced rice in India and Vietnam has worsened Thai rice export trade. Third, the economic growth of developed economies is weak. About 20% of Thailand's rice exports are concentrated in developed economies. In recent years, the world economic downturn has led to the economic downturn in developed countries and the slowdown in the growth of household consumption. At the same time, national governments' trade protection policies have added trade barriers to Thai rice exports.



CHAPTER 4

OPPORTUNITIES AND CHALLENGES FOR THAI AGRICULTURE UNDER THE BACKGROUND OF “THE BELT AND ROAD”

4.1 China's Initiative of “the Belt and Road “

In 2013, when visiting Southeast Asian countries, Chinese President Xi Jinping proposed a major initiative to jointly build the “Silk Road Economic Belt” and the “21st Century Maritime Silk Road” (hereinafter referred to as the “the Belt and Road”). The proposal was received Wide attention as soon as it was proposed. The purpose of the “the Belt and Road” initiative is to promote economic prosperity and regional economic cooperation among countries along the route, thereby promoting mutual exchanges among different civilizations and further promoting the construction of world peace and development. China pursues a policy of non-interference in other countries’ internal affairs. No matter what changes have taken place in Thailand, China’s development policy towards Thai friendship has never wavered. This policy has been highly praised by the Thai community(Ning,2015). Thai agriculture should seize this good opportunity to further deepen the depth and breadth of agricultural transnational operations.

4.2 Thailand's Situation in ASEAN

Thailand is one of the member countries of APEC and a founding member of ASEAN. Thailand is the largest source of agricultural product imports and the second largest agricultural product export market (after Malaysia) among ASEAN member countries(Wang,2015). Since the establishment of the China-ASEAN Free Trade Area, the two countries have reached the first “zero tariff” agreement on agricultural products and cancelled most trade tariffs on vegetables and fruits. The free trade area is Important platform of the development of agricultural trade between China and Thailand. Among the ASEAN countries. Thailand’s aggregated economy and growth rate are ranked in the forefront of the entire Southeast Asian region.

As of March 2016, China surpassed Japan and the United States as Thailand’s largest importer, and China is also Thailand’s largest trading partner. (Huang, 2011).Thailand is an important part of the ASEAN-China Free Trade Area, and it is also an important strategic node of the Maritime Silk Road. Thailand can link not only the Maritime Silk Road but also the land-based Silk Road. In the future, Thailand will play an important role in Asian integration system. Therefore, China and Thailand have become more and more closely linked in the economic field. China is

positioning China-Thailand relations as a comprehensive strategic partnership. There are many opportunities for development in Sino-Thai industrial cooperation.

4.3 The Positive Significance of the “the Belt and Road” Initiative to Thai Agricultural Products

China and Thailand have had economic and trade exchanges since ancient times. As China's leaders put forward the development strategy of “the Belt and Road”, China-Thailand bilateral trade will once again enter a new stage. Thailand's have significant roles to play in China's “the Belt and Road” strategy. With China's labor costs and foreign capital on the rise, there will be more influx of investment from China to Thailand in the future. The use of “the Belt and Road” strategy along with the dynamic growth of China and other Asian countries' economies to continuously advance domestic infrastructure, strengthen economic relations with China. And upgrade their economic level. This is “the Belt and Road” strategic background opportunity that Thailand must work hard to seize.

First, we will promote the establishment of a unified market. “the Belt and Road” runs through Asia, Europe and Africa, connects with the East Asian Economic Circle and the European Economic Circle. It covers a large area, involves many countries, and has huge potential for economic development among countries and regions. This area covers nearly 60 countries and is a huge market, which has an important impact on promoting the scale of Thai agricultural trade and the optimization of product trade structure. It is conducive to Thai agricultural enterprises to optimize the internal structure through trade, promote the development of productivity, and promote the development of technology-intensive industries. At the same time, under the “the Belt and Road” background, all countries have cooperated and developed on the principle of mutual trust and mutual benefit, and have also accelerated the exchange and transfer of agricultural technologies so as to promote the comprehensive innovation of agricultural technologies.

Second, promote trade facilitation. One of the focuses of the “the Belt and Road” initiative is to solve the problem of investment and trade facilitation. The “Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road” published by the Ministry of Commerce of the People's Republic of China clearly stated that investment and trade barriers should be eliminated, a good trade and investment environment should be established, and the potential for cooperation among countries and regions should be stimulated. Through this series of policies, the existing barriers will be broken in the course of future trade contacts, thus facilitating

the barrier-free communication of trade and technology.

4.4 Existing Cooperation

At present, China and Thailand have many multi-level cooperation. In 2014, the Thai government formulated and implemented an important economic development strategy - the establishment of a border special economic zone. Songkhla is one of the first five border special economic zones. Songka's port construction and maritime development are actively connected with China's "21st Maritime Silk Road" advocated by China. Thailand's infrastructure construction is relatively backward, and it is difficult to meet the trade and investment needs. The construction of ports, highways, and railways requires substantial investment. The Thai government is currently working hard to accelerate the pace of construction in transportation and logistics. Thailand is one of the founding members of the AIIB. The "the Belt and Road" initiative has provided Thailand with a very good opportunity to develop its infrastructure.

The two important railways in the "Pan-Asian Railway" eventually converged in Thailand, and the China-Land Kunlian Highway connecting China's mainland and South China Peninsula also ended in Bangkok, the capital of Thailand. The Thai government attaches great importance to the "One Belt and One Road" initiative and is working hard to put in place corresponding measures. In the "Thailand Economy 4.0 Strategy" proposed in 2017, foreign companies' investment is subject to a maximum reduction of 15 years of corporate income tax.

CHAPTER 5

SWOT ANALYSIS OF THAI RICE INDUSTRY DEVELOPMENT

SWOT analysis was first applied to corporate strategic management, through comprehensive consideration of internal advantages, disadvantages, external opportunities, and threats, and through systematic analysis, the method of selecting the best business strategy was selected. At the beginning of the 1980s, professors at the University of San Francisco in the United States first proposed this analysis method to provide a basis for the company's strategic planning. The scope of application of the SWOT analysis has now expanded from the simple expansion of strategic management of enterprises to industrial development, regional planning, urban management and national strategies(Xi,2010).

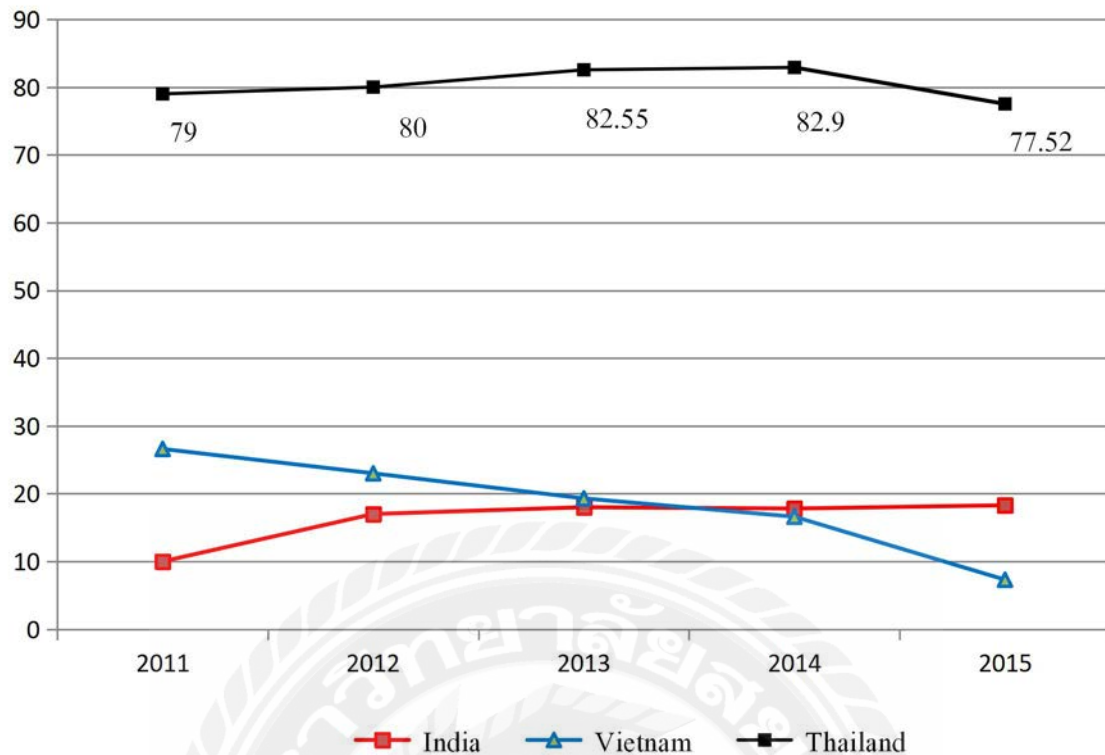
The SWOT analysis is performed on the four aspects of the studied image. S (Strength) refers to the advantage, generally speaking refers to the research object itself has various factors that can make the research object have advantages in development; W (Weakness) means disadvantage, generally refers to the various factors that the research object itself has, which adversely affects the study object in development and puts it at a disadvantage; O (Opportunity) refers to opportunities, which generally describe the research objects in their environment, and can use and promote various opportunities for their development; T (Threat) represents a threat. It refers to the threats faced by the research subjects during the development process, such as various external challenges and competition. On the whole, SWOT can be divided into SW and OT. SW indicates internal conditions and OT indicates external factors. Using SWOT analysis, the four approaches should be to give full play to the advantages of the research subjects, use external opportunities to overcome their disadvantages, and respond to external threats (Zhang, 2010). Based on a systematic analysis of various factors, strategic choices and a series of countermeasures are made.

5.1 Analysis of Advantages

5.1.1 Displaying comparative advantages

From 2001 to 2015, Thailand's Rice Comparative Display Advantage (RCA) has been far ahead of the rest of the world. It is a highly competitive product, but in recent years it has gradually declined . The RCA value decreased to 77.52 in 2015 from India (18.29) and Vietnam (7.3).

Figure 5-1 Thai Rice Linear Comparative Advantage 2011-2015



5.1.2 Thailand's rice is of good quality and high standard, and it focuses on technical research and development of rice

Among the standards currently formulated by all rice-producing countries, the Thai rice standards are the most rigorous, standardized and detailed. The Ministry of Trade of Thailand stipulates that only the two varieties of rice, Hom Mali 105 and rd15, with a content of not less than 92%, can be called Thai Jasmine rice. High-standard rice regulations protect the quality of Thai rice exports. Preventing the appearance of various types of fake fragrant rice has damaged the brand image of Thai Jasmine rice. It is also a pass for Thailand's rice to sell to countries and regions in the world. This is relatively promising.

At present, Thailand has 28 seed R&D centers and 23 seed production centers. It can produce 85,000 tons of seeds each year. The strong seed development and production capabilities have laid a solid foundation for Thai rice production. The Thai government has also established the National Institute of Rice Research to form a professional, experienced, and capable R&D team, including many doctors who have returned from studying abroad. In addition, Thailand also established agricultural cooperatives and community rice centers, which can produce 40,000 tons and 200,000 tons of rice seeds each year. Thailand actively develops and promotes new

technologies for rice cultivation, strives to develop rice varieties that are more adaptable to the environment and climate change, and can withstand pests and diseases, so that Thai rice yields and quality are higher, and it is rich in more nutritional value. Thailand's pursuit of innovation and breakthroughs in rice production technology is a reflection of Thailand's strong potential for rice development.

5.1.3 Thai government supports agricultural development

Thailand is an agricultural country. The prosperity of the agricultural industry directly determines the strength of Thai economic development. The Thai government attaches great importance to the development of its own agriculture. Apart from the emphasis on the improvement of R&D technology mentioned above, it also promotes agricultural development through other policies and measures. The Thai government first focused on stabilizing the domestic price of rice and satisfying the protection of the economic life of farmers. In particular, over the past few years, the Thai government has protected the competitiveness of Thai rice exports by restricting and gradually reducing the scale of rice cultivation to increase the price of rice purchase and export. Secondly, the Thai government promulgated a financial policy to promote rice production, stipulating that rice acquisition and export enterprises can obtain loans from relevant banks, and extend the repayment period appropriately to inject capital into the rice industry; The Thai government has also set up a rural development fund. The Ministry of Finance has borrowed 9 billion baht from the Reserve Bank and Thai Agricultural Bank for a period of nine years for rural development and construction. It requires 1 million baht for each village and it will be used on a revolving basis. The Thai government also attaches great importance to the export of rice companies. Through measures such as lowering export tariffs, financial subsidies, and streamlining administrative approvals, the company will lower its export costs and increase the efficiency of its exports so that Thai rice can reach the world market with the most competitive prices and at the fastest speed.

5.1.4 Thailand actively improves domestic and international environmental conditions

At home, the Thai government is actively stabilizing the political situation and creating a peaceful and stable social environment: Through a variety of measures to stabilize prices, stabilize the Thai baht exchange rate, and Promote currency value maintenance and increase: Issue relevant policies and regulations to protect the interests of farmers and prevent middlemen from exploiting farmers; Vigorously build

waterway projects, build reservoirs, build channels, and provide water security for the development of rice: Establish high rice standards, protect Thai rice awareness and increase export value; Actively use domestic resources, vigorously develop tourism, attract foreign tourists to consume rice in the country, and so on.

In the international arena, the Thai government actively creates a good international image and strengthens the political and economic exchanges with rice importing countries, such as the United States, China, Indonesia and Japan. With rice as an economic and trade medium, and increasing domestic rice exports, the end result is improved Thai rice's export competitiveness.

5.2 Disadvantage Analysis

5.2.1 Thailand's rice production costs are higher

The production cost of rice in Ayutthaya, Thailand(acre yield)is 5,800 baht, while in Vietnam, it is 497,89 baht, thus the overall production cost of Vietnamese rice is lower than in Thailand. The first is that the cost of rice seeds, fertilizers, pesticides, and other costs is higher than in Vietnam. The second is that the higher cost of agricultural machinery. Whether it is purchasing or renting imported agricultural machinery, higher costs are required.

5.2.2 Decrease in planting area and decline in rice production

In recent years, the planting area and production of Thai rice have been declining. The main reason is that the Thai government has reduced the supply of rice by reducing the country's rice planting area and pushing up prices to increase farmers' income. The average rice production in Vietnam is 884 kg/mu, which is about twice that of Thailand, thanks to Vietnam's superior natural conditions. At the same time, Vietnam has successfully introduced the multiple cropping technology into agriculture, and can harvest seven times of rice in two years, that is, three times per year. In addition, due to the relatively small amount of rice planted in each household in Vietnam, it is possible to intensively cultivate and naturally improve the quality and yield of rice(Luo, 2016).

5.2.3 Rice policy issues

On October 11, 2011, the Yingluck Shinawatra government implemented the "Rice Paddy Pledging Scheme" to increase domestic rice purchase prices, resulting in a sharp increase in domestic rice purchase prices, which has seriously weakened Thai

rice's international competitiveness. At the same time, rice exports from countries such as India and Vietnam have soared, resulting in Thailand losing the “throne” of the world's largest exporter of rice and adding to the government's financial burden. The Thai government subsidized rice cultivation, on the one hand, it promoted the enthusiasm of domestic rice farmers, but on the other hand, it also boosted domestic rice prices and weakened its international competitiveness. In particular, mid-range and low-grade rice encountered low-price competition in countries such as India and Vietnam. It is foreseeable that India and Vietnam will become “rivals” for Thailand's middle and low-grade rice exports in the coming years.

Due to the mistakes made by the former government in the implementation of policies, the degree of emphasis on industry was higher than that of agriculture. The implementation of the policy has promoted the development of industry to avoid dependence on imports and opened up green channels for taxation in industrial production. On the other hand, increasing the taxation rate of fertilizer imports, tariff bastions, thereby managing and controlling domestic fertilizer production, eventually led to the increase in the cost of using domestic agricultural fertilizers.

5.2.4 Unreasonable export structure, increasing risks

First, rice exports are dominated by developing economies. Thailand's rice exports target mainly Africa and Asia, with about 80% concentrated in developing economies and only 20% in developed regions. The economic level of most countries in the export area is low, resulting in a low level of rice consumption, mainly in the middle and low grades, and limited trade interests. Second, in recent years, the competition for low-priced rice in India and Vietnam has worsened Thai rice export trade. Third, the economic growth of developed economies is weak. About 20% of Thailand's rice exports are concentrated in developed economies. In recent years, the world economic downturn has led to the economic downturn in developed countries and slower growth in household consumption. In 2015, Thai rice exports to advanced economies fell 6.71%. At the same time, governments in various countries have “recovered” trade protection policies and added trade barriers to Thai rice exports.

5.3 Opportunity Analysis

5.3.1 Pay attention to agricultural software and hardware construction

The Thai government should continue to attach importance to developing agricultural infrastructure and give priority to the development of farmland water conservancy and rural transportation. Thailand's farmland water conservancy and

rural transportation are relatively good in Southeast Asian countries, and have played a very active role in agricultural production and transportation of agricultural products. Adhere to the cultivation and promotion of good rice varieties, the introduction of advanced processing equipment and science and technology, to maximize the rate of polished rice; Promote the scientific knowledge and operation techniques of rice cultivation to farmers. Thailand's rice exporters have formed the Thai Rice Export Association, which plays an important role in promoting cooperation among members, formulating association policies, and overall rice export guidelines.

5.3.2 Opportunities brought by” the road and belt” initiative

China-Indochina Peninsula Economic Corridor Brings Many Benefits .The location of the Indochina peninsula has obvious advantages. It is close to the Pacific Ocean to the east and has many deep-water ports, which is conducive to the docking of ships. The Indo-China peninsula has a long coastline. The sub-continental shelf is rich in mineral resources. The area of the Indo-China peninsula exceeds 2 million square kilometers. The peninsula has rich vegetation and complete mineral resources. As the economic and technological levels of the countries on the island are relatively backward, many resources have not yet been developed. The more important countries on the island are Thailand, Vietnam and Laos. At the same time, the peninsula has important international rivers such as the Mekong River, which are rich in water resources and are equally important for connecting cities along the river. The corridor will use the city of nodes along the route as a fulcrum, and connect these node cities together by means of transportation such as aviation, railway, highway, and water transportation. Realize the connection of human resources and bulk cargo so that the allocation of resources in cities along the route can be optimized and regional economic integration can be achieved. What Thailand wants to do is to actively promote the construction of the South-South Economic Corridor and transfer the advantages of Thailand through the economic corridor of the Indo-China Peninsula.

Thailand is an important member of the Indo-China Peninsula Economic Corridor and actively participates in and vigorously promotes the establishment of the economic corridor of the Indo-China Peninsula. The construction of the Indo-China Peninsula Economic Corridor has given Thailand an opportunity to become an important commercial hub in the region due to its excellent geographical location. Therefore, both Thailand's official and private sectors have supported the economic corridor of the Indo-China Peninsula

The China-Indochina Peninsula Economic Corridor has significant implications for the cooperation between China and Thailand under the “the Belt and Road.” At the same time, the construction of the corridor is also conducive to stability in Southeast Asia. First, the construction of the corridor can further expand the level of opening up in northern Thailand and develop the local economy. Due to the sluggish global economy and weak economic growth, wider cooperation with South Asian and Southeast Asian countries may be a new growth point for the Thai economy. The construction of the Indo-China Peninsula Economic Corridor has not only found a convenient passage for the northern provinces, but also boosted local economic and social development. Second, it promotes personnel exchanges and cooperation among countries to increase mutual trust. Third, the construction of the corridor is conducive to complementing the advantages of countries along the route and forming a rational and orderly international division of labor. The construction of the Indo-China Peninsula Economic Corridor will bring out the natural comparative advantages of Thailand. The construction of this corridor has established a platform for the circulation of trade products in various countries along the line. The construction of the Indo-China Peninsula Economic Corridor will bring out the natural comparative advantages of Thailand. The construction of this corridor has established a platform for the circulation of trade products in various countries along the line. Finally, the construction of the economic corridor along the Indo-China peninsula will be closely linked with countries along the route, making each country a stakeholder. The construction of the Indo-China Peninsula Economic Corridor will connect the China-ASEAN Free Trade Area and provide traffic conditions for the development of the ASEAN Free Trade Area. Thailand can use this economic corridor to develop a broader market in ASEAN and China.

The construction of R3A highway from Kunming to Bangkok. The road starts from the Mohan port in Yunnan Province of China and passes through Laos to Chiang Rai, Thailand. The total length is 228 kilometers. After opening, it will open the transport route from the Andaman Strait to southern China through Thailand, and Thailand will become an important cargo distribution center on this highway. This road can not only actively promote the development of Thailand's economy, but also enhance the development potential of various transportation systems.

The large-scale construction of the Thai railway was mainly before the end of the second-half war of the 19th century. Up to now, the length of railway operation is only 4363 kilometers. The equipment is obsolete, the management is backward, and accidents occur frequently. The layout and design of the railway lines are rather old and even broken compared to modern technology, which has seriously affected the

development of Thailand's economy and society and the upgrading of the railway's integrity is imminent.

Thailand can use the “the Belt and Road” opportunity to gradually obtain China's cost-effective railways, learn relevant railway technologies, and train Thai railway personnel. This is a development that benefits the country and the people. The cooperation in railway construction between the two countries can play a major role in improving Thailand's infrastructure construction and the development of railway transportation.

Thailand's foreign trade volume ranked second in Southeast Asia as part of the “the Belt and Road” strategy. The China-Thailand Railway will contribute to the trade exchanges between Thailand and China, Southeast Asia, Japan and South Korea and even Europe and Central Asia. It will bring huge trade revenue to Thailand's own economy.

5.4 Threat Analysis

5.4.1 Strong competitors

Competitors of Thai rice, such as Vietnam and India, are actively raising rice export potential. The average yield per mu in rice in Vietnam is much higher than in Thailand, and the unit production cost is lower than in Thailand. The export potential is great in the future.

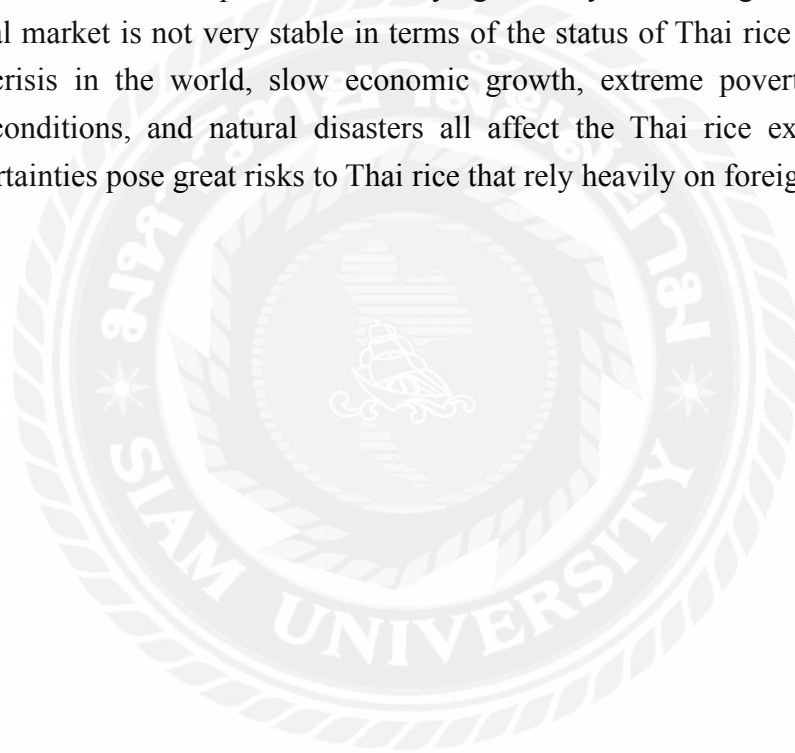
Rice prices in Vietnam and India are strong. Thanks to the appropriate climate and government procurement policies, India's rice cultivation area continues to expand. Large quantities of rice and glutinous rice are exported, although the quality is inferior to Thailand, but the increasing international market share makes it a strong competitor for Thai rice. Thai rice's international market share has also begun to be eroded. Vietnam's rice export prices are lower than Thailand, and the quality is not much worse than Thailand's. The price of rice exported from Thailand during 2008-2013 was 10% higher than that of Vietnam, and the spread has continued to widen, seriously affecting Thai rice exports in Southeast Asian countries. In recent years, Vietnam has exported more rice to the Philippines and Malaysia than Thailand. Chinese Hong Kong, Taiwan and Australia had previously switched from importing quality rice from Thailand to shifting rice from Vietnam.

5.4.2 High-end basmati rice varieties are threatened

The taste of rice produced in the United States is similar to the jasmine rice in Thailand and Basmati rice in Pakistan and India. The International Rice Research Institute (IRRI) has developed a new rice variety called Jasmine 85, but its flavor is not comparable to Thai rice. At present, the United States has planted a large amount of this variety of rice as an export, and it is expected that it will have a certain influence on the Thai basmati rice market in the future. China also has a variety called “Super Thai Rice”, which is very similar to Thai 105 Jasmine rice.

5.4.3 Relies heavily on foreign markets

About 80% of Thai rice production is exported, and domestic consumption only accounts for 20% of its production. Relying heavily on foreign markets, the international market is not very stable in terms of the status of Thai rice exports. The economic crisis in the world, slow economic growth, extreme poverty and other economic conditions, and natural disasters all affect the Thai rice export market. These uncertainties pose great risks to Thai rice that rely heavily on foreign markets.



REFERENCES

- Bai, J.J. (2012). Analysis of Chinese Rice Foreign Trade Competitiveness. *Journal of Shanxi Agricultural Sciences*. 40(9),993-996.
- Chen, B. (2009). Introduction of Agricultural Extension System and Training of Farmers in Thailand. *Management of Agriculture Science and Technology*.4,89-91.
- Ding, J.Z. (2005). Overview of Agricultural Policy Finance in India and Thailand. *The Agricultural Development and Finance*. 1,5-6.
- Edwards,S. (2002). Information Technology and Economic Growth in Developing Countries. *Challenge*. 45(3),19-43.
- Gong, X.Q. (2013). What is the enlightenment from the Thai rice purchase policy. *China Grain Economy*.10,25.
- He, C.Y. (2016). The SWOT Analysis of Thailand's organic rice export. *University of International Business and Economics*. 53,88-92
- Huang, J.Z. (2011). Status, Problems and Prospects of Thai-China Trade-- Thailand's Perspective. *Around Southeast Asia*. 9,75- 80.
- Hu, Z.Y. (2006, August). The Research on the International Competitive Power of Chinese Rice- The Comparative Research with India, Pakistan, Thailand and Vietnam. *Chinese Agricultural Science Bulletin*. 22(8),639-642.
- Jiao, C.H. (2010, May). Status of Agricultural Production and Crop Variety Improvement in Thailand. *Hubei Agricultural Sciences*.49(5),1240-1244.
- Li, L.C. (2015). The Study of Export Development of Thailand rice. *University of International Business and Economics*. 58,201-207
- Li, W.J. & Jiang, H.L. (2011). Analysis of the Decline of Rice Exports in Thailand in Recent Years. *China Business*. 15,73-74.
- Luo, X.M. (2016). Competition of Rice Exports Between Thailand and Vietnam. *Guangxi University*. 43,342-347
- Ning, F.K. (2015, June). Sino-Thai cooperation to build “the Belt and Road”. June 18, 2015, from <http://world.people.com.cn/n/2015/0618/c1002-27175715.html>
- Prabhu, L.P. (1997). Prospects for sustaining Vietnam's reacquired rice exporter status. *Food Policy*. 22(4),345-358.
- Panitnat, Y. (2010). Comparison of Rice Export Potentials Between Thailand and Vietnam. Dissertation, *Chiang Mai University*. 14,35-39
- Tian, Y. (2013). The Analysis Industry International Competitive Power and Promotion Strategy: Based on the Comparison With Thailand. *On Economic Problems*. 6,121-124.
- Vinit, A. & Nancy, S. (2001). Thailand Rice: Economic Marketing and Policy Issues. *International Advances in Economic Research*. 7(3),370-370.

- Wang, L.C. (2016). The Potential and Risks of China and Thailand Cooperation under “One belt and One road” Proposal. *Central China Normal University*. 12,43-48
- Wang, S. (2015). Strategic Innovation to Sino-Thailand Economic and Trade Cooperation-- Study on Agricultural Industry Chain Cooperation Under the Background of “Maritime Silk Road of the 21st Century”. *University of International Business and Economics*. 9,17-23
- Wang, Y.Y. (2008). Research on Strategy of Qingdao HS Co.'s Dealing with Technical Barriers to Trade. *Tianjin University*. 4,76-81
- Wang, Y. (2017). Present Situation and Prospect of Agricultural Development in Thailand. *Journal of Agriculture*. 7(11),95-100.
- Xue, D.Q. (2011). Analysis of Enterprise Development Strategy Based on SWOT. *China Market*. 32,65-66.
- Xu, G.T. (2014). Thailand Rice Export Competitiveness Study. *Kunming University of Science and Technology*. 8,109-114
- Xia, W.Q. (2012). Study on the Choice of Logistics Path in Sino-Thai Rice. *Kunming University of Science and Technology*. 5,45-49
- Xi, X. (2010). SWOT analysis application. *China Economist*. 4,256- 257.
- Liu, Y.H. & Beoy,K.N. (2014). Facing the Challenge of the Rising Chinese Economy; ASEAN’ s Responses. *Review of Development Economies*. 3,666-682.
- Zheng, G.F. (2017, may). The Features, Problems and Suggestions of the Trade Development of Thai Agricultural Products- A Case Study of the Data from 2001 to 2016. *Around Southeast Asia*. 5,32-37.
- Zhang, H.Y. (2010). Application of SWOT Analysis in Agricultural Industry Development Strategy Research-- Taking “Hunan Agricultural Products Processing Industry Development Strategy Research” as an Example. *Chinese Journal of Tropical Agriculture*. 2,55- 59.
- Zhong, Y. (2014). Thailand Rice Price Support Policy Practice and Enlightenment. *Issues in Agricultural Economy*. 10,103-109.