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## Abstract

The aim of this paper is to study about the condition of rose industry in Cambodia. In general, the demand for flowers in Cambodia has experienced a dramatic increase over the last 3 years from 2015 to 2018. Indeed, this demand has ascended on an annual basis with a shift in the usage of fresh cut flowers, changing from just for traditional purpose to more modern ones due to the influence of the modernized lifestyle. Remarkably, among all the varieties of flowers, roses are considered as a must-have item in any flower shop. However, even though rose is one of the highly consumed flowers in Cambodia, especially within the city of Phnom Penh, it seems that the country does not have its own local supply for rose produce. All roses that are in the market today are all imported from other countries from Asia to Europe. To be able to investigate about the challenges of rose production in Cambodia and to point out these factors, the author will apply the methodology of the diamond theory to compare between Cambodia and other countries that are successful in rose industry such as China, Vietnam, and Thailand; and to find out what factors differentiate Cambodia and the rest. The research is also conducted based on primary data that are collected through an interview with the officers from The Ministry of Agriculture of Cambodia and Ministry of commerce to acquire in-depth information about the rose industry and trade, together with a survey that had been carried out with flower retailers in Phnom Penh and farmers in Cambodia. For the findings in this research, it will show the result from the comparisons that distinguish Cambodia from other countries as well as the challenges that Cambodia face in order to product their own local roses. Lastly, this research also proposes the recommendation of why Cambodia should have their domestic rose supply, and how much it might help to develop and support the floral industry and market within Cambodia.

**Keywords:** Rose industry, Cambodia, Flower market

## **1. Introduction**

Flower is one of the symbols of beauty and poise. You can find flowers everywhere around the world, and it has been traded across the globe from Europe to Asia, the Middle East and more. People use flowers in many different ways to serve their national tradition and cultural purpose such as for decoration, for praying to god or for casual purpose, namely a decoration for your garden, decoration for event and celebration towards the trend of fashion and lifestyle and as a gift of celebration etc. Some might use flowers for medical purpose, as an ingredient in food, drinks, or even cosmetics and many more. For Cambodia in the old days people use flowers mostly for traditional purpose such as for praying to god as well as decoration for traditional ceremony such as wedding. In Cambodia the usage of flowers for wedding decoration has followed a dramatically upward trend in the past 5 years. Indeed, wedding decoration in the old days used to cost approximately from 800USD to 2,000USD, but nowadays the price and the size of flowers decoration has gone up to 8,000USD to more than 40,000USD per wedding. However, apart from decoration, flowers are also being given as a gift in a small boutique or basket, and the most popular flower that can be used for almost all purposes is rose. Roses come in many colors, sizes and even scents. Every breed of roses from the original to hybrid roses has its own uniqueness. Different breeds of roses can be grown in different parts of the world based on its requirement of environment and climate. Different breeds and environments can result in different quality of roses. Roses supply in Cambodia are all imported from Europe and Asia countries Netherlands, Kenya, Thailand, Vietnam and China which is the biggest flower hub in Asia. China and Vietnam are ranked as the top rose suppliers for Cambodia. However, Thailand is the second hub for Cambodia since Thailand has bigger market and, at the same time, flowers from China have to be transported through Thailand before reaching to Cambodia.

In Asia, China is one of the most successful examples when it comes to floriculture. Yunnan is one of the most famous provinces in China that are well known for producing fresh cut flowers.

The profit of floral industry in Yunnan accounts for 1/3 of its total income. Besides China, another country that has improved its floral industry and has also become one of Cambodia biggest suppliers for roses and other types of flowers is Vietnam. Cambodia has imported roses from Vietnam from a lower range to medium range with their medium range having the same quality and size compared to Chinese roses. However, for the lower range their flowers got smaller buds and weaker stems.

Cambodia consumes roses from many countries with the demand going higher year by year, but the country has not had its own domestic supply yet. Therefore, this research will study about the rose industry in Cambodia and investigate to illuminate on what factors led Cambodia to import all fresh cut roses from other countries rather than producing itself. Specifically, the paper will implement a comparative analysis between Cambodia rose industry with its neighbor countries that have similarities in terms of geography and point out what seem to be the challenges that Cambodia is facing in order to produce its own local roses.

## **2. Conceptual Framework**















The research aims to study about rose industry in Cambodia. Floral industry in Cambodia has been increasing rapidly for the past 3 years. In fact, a greater number of businesses that involve in flowers are also increasing along with the price of fresh cut flowers itself. Roses are the highly demanded within the country especially in the capital city of Phnom Penh. Apparently, there seem to be changes in the usage of roses. Although it is not one of the traditional flowers, it is a must-have item in every floral shop. These changes are influenced from the lifestyle trend from neighboring countries including Thailand and Vietnam. These can reflect the growth of Cambodia economy that led to the improving lifestyle of the citizens with higher income. Hence, it is shown that people are willing to spend more to celebrate their success while rose supply and its price have also been rising accordingly. Roses are used in almost all kinds of purposes, ranging from

being a part of decoration in a traditional event such as wedding to a bouquet as a gift to one another. Many different varieties of roses are being imported to Cambodia market, from a small and low-quality rose to a big and high-quality rose that has been imported from Europe countries. Rose demand is soaring throughout the years but there is apparently no sign of growth in domestic supply. However, the domestic supply appears to be decreasing instead. The table below will show the statistical decrease in the figures of fresh cut flowers that Cambodia has been exporting to the world from 2013 to 2017.

#### Bilateral trade between Cambodia and World

Product: 0603 Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, ... 

Unit : US Dollar thousand

Table		Graph	Map	Companies									
HS6	Product code	Product label 	World's imports from world					Cambodia's exports to world 					
			Value in 2013	Value in 2014	Value in 2015	Value in 2016	Value in 2017	Value in 2013	Value in 2014	Value in 2015	Value in 2016	Value in 2017	
	0603	Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, ...		8,252,291	8,536,160	7,723,240	7,762,412	8,220,287		70	22	0	8
	0601	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower, ...		1,759,543	1,785,839	1,579,356	1,535,511	1,664,769		0	0	0	0
	0602	Live plants incl. their roots, cuttings and slips; mushroom spawn (excluding bulbs, tubers, ...)		7,647,138	7,616,397	6,623,482	6,752,531	7,732,745		0	0	1	22
	0604	Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses ...		1,208,219	1,178,671	1,067,947	1,038,770	1,159,475		0	0	0	0

Sources: ITC calculations based on [UN COMTRADE](#) statistics.  
 The data aggregated are mirror and direct data: the values are shown in purple.  
 Data based on the partner reported data (Mirror data) are shown in orange

Sources: ITC calculations based on UN COMTRADE statistics.

### 3. Methodology

Since Cambodia floriculture is developing, a few methods were utilized to enable the analysis and identify the factors that have impacts on the rose industry in Cambodia.

For this research, the author investigates the factors by using comparative advantage in diamond theory to compare Cambodia and its neighbor countries that are successful or have developed significantly their rose industry, along with some of the most successful countries in their floriculture such as China, which is the major flower hub in Asia. Moreover, the research will use primary data which were collected through an interview conducted with an officer from Ministry of Agriculture of Cambodia Mr. Khy Kosal (Deputy director of department of account finance) and another officer from Ministry of Commerce Mr. Eng Sothyvon (Directorate General of international trade), together with a survey that has been done with the people in floriculture sector such as flower retailers, wholesalers and suppliers, and 4 flower farms. Additionally, secondary data will be sourced out from published books, journal and articles to get more in-depth information about rose industry as well as floriculture from other countries. On the whole, these methods made it possible for the author to identify, compare factor-by-factor and specify the disparities between Cambodia rose industry and other countries and which factors affect the most to the production of roses in Cambodia.

#### **4. The current status of floriculture in Cambodia**

Although floral industry used to be small in Cambodia, it appears to have changed considerably over the last 5 years. More and more flower demand is increasing year by year, and the most fast-increasing period is from 2015 to 2018. For the past 3 years, there are more than 30 floral retails that have been opened within the city of Phnom Penh, not to mention the small flowers shop in the local markets. Despite the expansion of floral shops resulting from higher demand on flowers, the flower price is not lower. In fact, even though the supply has increased to serve the demand, the flower price is increasing. This is because most flowers are imported, which makes the price become higher.



#### **4.1. Demand and domestic supply**

Demand for flowers in Phnom Penh is increasing dramatically. Thanks to the economic growth and the improving lifestyle of the citizens, people are willing to spend more on celebration for their success and many other events. Flowers are used not only for traditional events like in the old days. The trend of flowers decoration is poured in Cambodia from its neighbor countries such as Thailand, and rose is one of the highly consumed flowers for all purposes. Roses in Cambodia are supplied from countries around the world such as Netherlands, Kenya, China, Thailand and Vietnam. However, the supply does not come from local suppliers. There are a few flower farms in Cambodia but none of them has grown rose. Most of the flower farms in the country have planted a few types of flowers which are for traditional purpose including jasmine, lotus, Orchid and Mary gold. However, these farms are still in a small scale compared to farms in Vietnam and Thailand. The supply from these farms could not even satisfy the need of the local market. As a result, these types of flowers are still being imported from other countries along with rose which is the number one highly demanded item in the market.

#### **4.2. Farmer condition**

There are not many flower farms in Cambodia, and most of them are small farms in the backyard that are owned by families in the countryside. Their farms are cultivated with a mixture of different agricultural items such as vegetables, fruits and animals. There used to be more farms in Cambodia, but they had closed down. It was due to the low profit that they got from the production. Hence, they instead turn the flowers farms to tourist destinations which can charge the tourist or visitors by their entry fee. Farmers from those farms that have been turned into tourist destinations have advantages because they gain better profit compared to supplying to the local market. In fact, they can get profit from the entry fee and sell flowers on the spot with a much higher price for the visitors. Besides, compared to growing flowers to supply to domestic

market, the labor cost of running flower farms as tourist attractions is lower. Therefore, by turning the business around, they would need much less labor for the field work.

## **5. Factors effect floriculture in Cambodia**

After doing the research on flower industry in Cambodia, we have seen a few factors that Cambodia farmers and the people in flowers business are facing. Cambodia is a developing country with an area size of 181,035 km<sup>2</sup>, and their population of 16.01 million (world bank, 2017). The economy in the country is growing for the past 3 decades, many foreign investors are coming in the country to invest their businesses because of its foreign-friendly investment policy, cheap labor, and natural resources such as land, minerals etc. Since many investments are happening in Cambodia, there seem to be some issues that led to the impacts on the floriculture in the country as there seems to be no investor that invests in this sector. Apparently, the consumption is growing while the production is slowly disappearing. There are probably a few factors that Cambodia is lacking or some factors from the investment development that may become an issue for the farmers in floral industry.

### **5.1. Resource and Utility**

Cambodia is rich in natural sources but when it comes to production it is still not as strong as their neighboring countries due to the level of unskilled workers and the high cost of electricity. Rose plantation or flower farming in Cambodia is not one of the idol businesses for the local. In fact, when it comes to resources for flowers, there aren't many domestic suppliers. The country certainly has natural resources but all necessary resources for rose production including pest control, soil mixture, and technology equipment have to be imported from other countries, making the cost even higher.

Regarding investing in a greenhouse, especially for roses, the most important thing is the usage of technology that involves in electricity and water. Since utility cost in Cambodia is still very high for farmers with the electricity fee can be up to 1,100Riel/kWh and water fee up to 2,000 Riel/m<sup>3</sup>. It is unfortunate for local farmers. Cambodian government is also seeking for methods to improve and find a better solution for this problem by lowering the electricity fee so that it could help not only floriculture but also many other industries. Another factor that affects the farming is the shortage of land. Since there are many foreign investors coming in to invest in the country and the urban city is also extending itself, therefore, the land on the outskirts of the city is being bought by investors and the price of land is also increasing dramatically. With the resource and utility issues, the higher price of land together with the labor shortage and higher labor cost led the farmers to give up the farming business and sell the land to the developers so that they will have more profits and more choices for other businesses or investments.

## **5.2. Investment**

Although the foreign investors are pouring in the country, there seems to be no investor that would invest in floriculture yet. In Cambodia, to be able to invest in this sector and especially for rose production, it would require a few certain criteria such as skills in floriculture including knowledge about certain types of roses which are suitable for the area condition. Thus, a collaboration with the foreign specialist is a must. Rose production is not one of the fast-producing produces, it takes years to get the result and at least 3-4 years to get back the profits, and at the same time, it needs maintenance and a lot of cares in order for roses to grow.

Since Cambodia is a humid country, therefore the investor needs to invest in greenhouse and its technology in order to grow roses. Roses need their own specific environment and climate to grow. Furthermore, under the right environment, they will also bloom with high-quality roses that have strong and long stems along with a bigger bud and more paddles that would have a longer life after cutting. For the requirements for rose, climate would be from 14c to 16c while in

Cambodia the average temperature for the cool season is around 25c and the hot season is up to 35c (Selectiveasia.com, n.d.). Consequently, it is not suitable for rose planting unless they are grown in the greenhouse.

Greenhouse is one of the best solutions for farmers all around the world. Most of the countries that are successful in their flowers production are likely to invest in this greenhouse and its technology. Each greenhouse has its different technology due to the need of plant or flowers type. The technology controls the surrounding atmosphere as well as climate from the usage of water, sunlight, soil condition and moisture. This greenhouse technology is very suitable for those who want to invest in flowers production in Cambodia. Nevertheless, to build the greenhouse, it might cost from 80,000USD to 4million USD according to the scale of the farm (Sheela, 2008), and this led to another problem which is financial problem.

Farmers in Cambodia are mostly middle to low income citizens that live in the provinces. This is because people with much higher income would mostly invest in business in the central city such as real-estate or trade import and export. For regular Cambodian farmers they might have financial problems when it comes to investing in this sector because the requirement and technology usually too expensive for them, not to mention the cost of utility, pest control and the labor which is increasing day by day.

### **5.3. Consumer behaviors**

Consumer often plays a pivotal role not only for flower industry, but also for every business and industry. In every country, people tend to have different cultures and behaviors when it comes to consumption. Cambodia is rich in natural resources, but the country has not fully developed yet, therefore, they have imported many ready-to-use products and fresh cut rose is also one of them. Even though roses are highly demanded in Cambodia, there is lack of domestic supply for roses due to some of the aforementioned factors. However, it would be a miss not to mention

consumer behavior which can also be considered as an important factor behind the scarcity of rose domestic supply. Cambodian consumers most likely prefer imported products more than local produces even for fresh cut roses. The mindset of the consumers tends to usually trust the imported ones because they think that it has a better quality and better appearance. The local farmer believes that even though they are willing to invest in this sector, they still could not compete with the imported roses in terms of price because consumers would give more priority to the imported ones and are willing to spend more on the imported roses and less to the local ones. Noticeably, this is different from other countries where consumers support their local products and give the same value to both local and imported products.

## **6. Conclusion**

The intention of this research is to investigate the factors that affect the development of rose industry in Cambodia. This study has focused on the condition in floriculture as well as the rose market in Cambodia. This research shows the comparison of the condition in rose industry between Cambodia and other neighboring countries. Besides, the study has also indicated a few factors that impacted the industry and challenges that farmers are facing in order to produce local fresh roses. The first factor is the resource and utility that involves with the equipment, pest control, land for growing and care for the roses. Utility is one of the most important factors because greenhouse needs a lot of electricity and water usage to support the greenhouse technology. Human resource is also needed for both skilled and unskilled labor. Second factor is the investment. Since Cambodian farmers are not specialized in roses plantation, they need a collaboration with foreign specialists to acquire necessary expertise. Additionally, their financial issue is also another aspect of the challenges which may require a support policy for the farmers. Last but not least, the most important factor is consumer behavior. Cambodian consumers perceive that imported products have more values than local products. This led Cambodian tend

to import rather than produce flowers in general, particularly roses. This is contrary to other countries where consumers usually support their local products.

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