

Exploring the Potentials of Coffee Industry in Malaysia

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INTRODUCTION

Coffee is a plant of the family Rubiaceae and genus *Coffea*, whose seeds are called coffee beans and processed into drinks (Noor Auni and Khairol, 1988; Muhammad Ghawas and Rubiah, 1991). It is a group of plants that can live up to more than 25 years and grow up to a height of 5 to 15 meters. It is believed to have originated from Ethiopia and then spread to Egypt, Yemen, Italy, all over Europe and the United States. Until now, coffee has gained a place all over the world including Malaysia, which planted coffee as a cash crop. Of the 66 species of this genus, three species are commercially cultivated and widely traded in global markets. These species are *Coffea Arabica* (70%), *Coffea Canephora* or known as Robusta (28%), and *Coffea Liberica* (2%). There are two varieties of coffee that are commercially grown in Malaysia: the Liberica (90%) and Robusta (10%). In general, *Coffea Arabica* is considered the most traditional coffee with the highest quality in terms of taste and aroma, while Robusta coffee has a higher content of caffeine which led to its use as an inexpensive substitute for Arabica. Compared to Arabica, Robusta tends to have a bitter taste and is more acidic. It is often used as an ingredient in some espresso blends to add more flavors at a lower cost. Among these three varieties, Robusta coffee is the cheapest with a price range of RM6 to RM10 per kilogram (kg), followed by Liberica, RM10 to RM16 per kg and Arabica, RM20 to RM25 per kg.

International markets

Coffee is the second commodity mostly traded in the world, after petroleum. The main coffee producing and exporting countries are Brazil, Vietnam, Indonesia, Colombia, and India (Comtrade, 2015). Malaysia was ranked 60th worldwide, which only contribute approximately 0.16% of the world's coffee production. Low domestic production and different quality of coffee cherries have prompted Malaysia to import coffee. The value of imports of coffee increased from RM51.59 million in 1988 to more than RM972.3 million in 2013, with an average annual growth of 17.8%. Countries that supply coffee beans to Malaysia in 2013 were Indonesia (49%), Vietnam (35%) and Brazil (6%). At the same time, Malaysia also exports processed coffee (value added product) to several countries such as Thailand (19%), Singapore (14%), Philippines (8%), the USA (7%), and Hong Kong (5%). Generally, the amounts of coffee exported by Malaysia are small but growing every year, with an annual growth average of 7.6%. The total value of coffee exports is greater than the value of imports, which makes a positive trade balance (Refer Table 1).

Table 1. Malaysia's import and export coffee, 2012 and 2013

ITEMS	2012	2013
Import (tons)	95,502	106,555
Import (RM)	871,447,493	972,300,000
Export (tons)	74,160	80,484
Export (RM)	1,197,376,487	1,299,480,000

Source: Department of Agriculture, Malaysia (2015)

Policy and production of coffee in Malaysia

In the third National Agricultural Policy (NAP3, 1998-2010), coffee has been identified as one of the commodities which has been given attention by the government. It has a high potential to be further fostered and developed. This commodity plays a significant role in the socio-economic development and the welfare of the rural-communities. Factors such as unstable prices, less favorable returns, the complexities of harvesting and processing and competition with other industrial plants, make coffee enterprise carried on a small scale, mostly cultivated by small farm holders.

Coffee production in Malaysia is relatively small and shows a downward trend. The planted area has decreased from approximately 7,500 hectares in 2007 to nearly 3,760 hectares in 2013 (Table 2). Production and average productivity of coffee have decreased due to decrease in planted areas. Coffee production declined from 21,213 tons in 2007 to 14,739 tons in 2013. Statistics showed that the productivity has dropped from 6.5 tons/ha in 2008 to 3.9 tons/ha for the year 2013 due to young trees after replanting activities by small farmers. The main coffee's growing areas in Malaysia are Sabah, Johor, and Selangor.

Table 2. Planted acreage and production of coffee in Malaysia, 2007-2013

	2007	2008	2009	2010	2011	2012	2013
Planted acreage (Ha)	7,512	3,538	3,426	5,098	5,141	4,277	3,764
Production (tons)	21,213	23,061	16,332	15,768	15,064	10,427	14,739
Production Value (RM millions)	12.09	15.04	10.65	10.28	9.83	6.80	10.83

Source: Department of Agriculture, Malaysia (2015)

R&D on coffee

The Malaysian Agricultural Research and Development Institute (MARDI) is a public research organization that has been mandated to carry out research and development activities to further bolster the development of coffee. At MARDI, coffee research began in 1981 and the focus at that time was on the development of new varieties. Intensive research had been carried out and as a result, the first clone of Liberica, called MKL1 was launched in 1992, followed by three clones MKL2, MKL3 and MKL4 in 1995 and MKL 5, MKL6 and MKL7 in 2008. The clones have been improved, such as to speed up the harvesting period, ranging from 19 to 24 months, produce larger fruit size, higher yields, and become more aromatic. The cloned MKL5, MKL6 and MKL7 for example, produced higher yield of coffee beans,

which is 24.3t / hectare, 25.1t / hectare and 26.2t / hectare respectively. MARDI has also produced poly-hybrid Robusta coffee named MKR1 in 1992 and the Robusta coffee clones consisting of MKR2, MKR3, MKR4 and MKR5 in 1995. The demand for crop breeds is very encouraging. This can be seen by MARDI sales data in 2005 in which more than 1.7 tons of seeds, 75 thousand of seedlings MKL1, 36 thousand seedlings for grafting and 19 thousand for the breed clones have been sold.

Issues and challenges of coffee industry

The coffee industry in Malaysia is relatively small. The production is unable to meet the continuous demand due to the development of downstream processing industries, the increase in population, and consumers' requirements based on their lifestyle changes. At this time, coffee has been added value and is recognized as a popular drink. Generally, the issues and challenges of coffee in Malaysia can be divided in two main categories, namely, production and marketing.

Production

1. Competition with other crops
 - Coffee crop dwindled due to competition of land, labor, and capital with other industrial crops such as oil palm.
2. Field management
 - Coffee cultivation industry in Malaysia is small-scale and mostly sought by collective small holders and estates. Most of the coffee management is performed on part-time basis and not in accordance with good agriculture practice (GAP) and eventually undermined the production. Poor fertilization and irrigation system affected the fruit sizes and low-quality spending primarily in the dry season.
3. Leaf rust disease (*Hemileia vasratrix*)
 - Coffee plants are always attacked by rust. If control measures are not taken immediately, it will cause the leaves to fall and reduce the production of coffee.
4. High-cost of expenses for labor
 - Coffee is a labor intensive crop, especially during harvesting period. The main challenge faced by the coffee industry in Malaysia is the high production costs. Labor is critically needed to manually pick the coffee cherries by hand because it is not simultaneously ripe. This method caused the low productivity and involves a high-cost wage. Furthermore, the competition to acquire labor force with other sectors has resulted in increasing of labor cost in the agricultural sector.

Marketing

1. Product acceptance issues in the world market
 - Liberica is less favored coffee compared to Arabica and Robusta, in the world market. As the world's major production is concentrated on those two varieties, Liberica only gets higher prices if the supply of coffee in the world market decreases.

2. Marketing problems faced by entrepreneurs.
 - Entrepreneurs face the problem of low and unstable coffee prices. The price of coffee in the domestic market is influenced by the price of coffee in the world market. Instability in price led to the less interest in coffee planting. In addition, the price of imported coffee beans is much cheaper, resulting to entrepreneurs competing to promote the local beans. For example, the price of local Liberica sold at RM14/kg. However, the price of a kilo of Liberica from Indonesia is only RM12/kg.
3. Marketing problems faced by the producer
 - Coffee beans prices also affected the producers. The high coffee prices of beans will cause the price of processed coffee, as it is the major component in mixed coffee powder. In addition, the producers do not deal with the problem in price competition among the other producers, enhancing the quality and the taste of coffee powder.

Policy implementation

Coffee produced raw materials for the processed drinks industry, generated income for farmers and contributed to the economic development of the agricultural sector. Despite its being small, the coffee industry has contributed to the balance of trade by increasing the exportation of high value-added coffee products to neighboring countries. The higher growth in demand for coffee products indicates the great potential of the coffee industry in Malaysia. Hence, it is timely for the government to formulate a policy that can transform the coffee industry from a small-scaled and conventional one to a modern and dynamic industry. Malaysia has a strong foundation and the ability to improve the viability of the coffee industry by using the following strategies:

1. Increase the cultivation area from 3,764 hectares to 10,000 hectares by 2020. This additional land area will produce over 22.5 thousand tons of coffee yearly. This can be done by promoting replanting and rehabilitation of the existing areas.
2. Provide incentives for replanting and rehabilitation of the existing areas such as for seedlings, and fertilizers.
3. Focus on coffee production according to clusters, such as in the areas that show potential to be developed commercially by type of varieties. For example, promote the cultivation of Liberica in Selangor and Johor while Sabah and Sarawak should be planted to Robusta.
4. Promote inter cropping between coffee and coconut to increase farmers' income.
5. Provide grants for research and development in the coffee production chain. Among the studies are the technology of crop production, irrigation, the development of new highly productive and quality varieties, processing and packaging technology and market research within and outside the country.
6. Export tax relief to coffee producers. This is to encourage more entrepreneurs to export their products abroad. This could increase the trade balance of the country.
7. Creating the export and logistics facilities abroad. The facilities will encourage more entrepreneurs to market their products abroad.

CONCLUSION

Coffee is an industry that is highly valued and can be enhanced for the improvement of the socio-economic situation of farmers and agri-food security in Malaysia. However, the industry needs government support and intervention in order to grow and become successfully sustainable. Thus, planning and systematic action plans to do so in this industry can be improved and developed for it to be at par with other countries such as Indonesia and Vietnam.

REFERENCES

- (2015). United Nation Commodity Trade (Comtrade), Statistic Data Base, Statistic Division. Retrieved on January 15, 2015 from <http://comtrade.un.org/data/>
- Noor Auni H. dan Khairol M.A. (1988). Tinjauan Terhadap Perusahaan Kopi di Malaysia. *Teknologi Pelbagai Tanaman*, 4, 39-44.
- Muhammad Ghawas M. dan Wan Rubiah A. (1991). Botani. Pengeluaran Kopi (Laporan Khas), 3-10, Serdang:MARDI.

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