

The Importance of The Natural Resource ‘Palm Oil’ for The Malaysian Economy and Its Role in Sustainable Development

Ira Singh

The International School of Kuala Lumpur, Malaysia

DOI: 10.46609/IJSSER.2024.v09i07.026 URL: <https://doi.org/10.46609/IJSSER.2024.v09i07.026>

Received: 13 June 2024 / Accepted: 24 July 2024 / Published: 5 August 2024

ABSTRACT

The research has indicated the manner in which the Malaysian economy moved from a purely exporter of primary goods to one which has become a major world exporter of processed palm oil. The emphasis on this product helped the economy in achieving success in major economic goals like reduction in poverty, inequality and enhancement of income of the marginalized. The impact on the environment is being successfully addressed by following certain steps.

Keywords: Palm oil, Sustainable development, Sustainability, Economic dependency, Production possibility frontier (PPF), Undervalued currency, Palm crops, Palm kernel oil, Red palm oil.

Research Question: The paper would analyze the impact of an abundant natural resource with respect to the economy’s growth path as well as how the abundant resource can be used in a sustainable manner for the economy. The sudden importance of protecting the environment has increased due to the adverse impact of climate change that is being felt throughout the world. Is there a tradeoff between earning foreign exchange and sustainability? What are the options that the economy can decide upon? Are these different for a developed economy and a developing economy? These are some of the questions that would be attempted to be answered during the research.

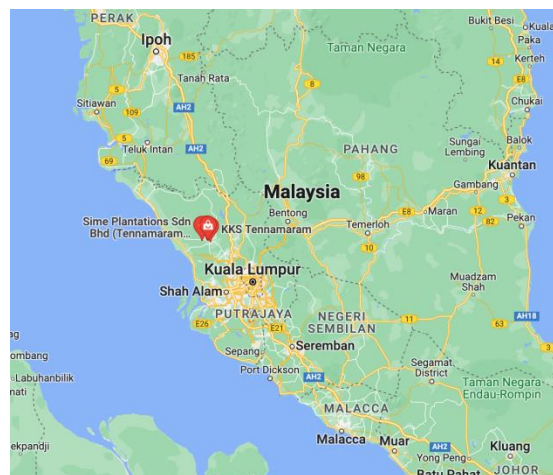
1. Introduction

The Palm Oil industry has helped lift millions of people out of poverty in Indonesia and Malaysia. 85% of global production of this resource is with these two countries. 40% of all palm oil plantations are owned by small farmers. The oil palm (*Elaeis guineensis*) originated from West Africa, where it was used as a staple food crop 5,000 years ago, in fact there is evidence that in Egyptian tombs people were buried with casts of palm oil. Given the antecedents of

origin, palm oil can be considered one of the earliest traded commodities. The British industrial revolution, in the 18th century led to the expansion of palm oil overseas trade, it was used in candle- making right up to industrial lubricants. Red palm oil became an extremely important asset on long sea- fairing voyages. Due to the increasing demand for palm oil, Europeans started investing in its production.

It is the combination of European settlers and entrepreneurs who saw the opportunity for commercial production in products like soap, lubricants and edible oil, which led to the dramatic expansion of palm oil plantations throughout sub saharan Africa. The first commercial scale in Malaysia, was found in 1917 and established Tenamaram Estate in Selangor.

Figure 1: Selangor in Malaysia (Indicated in pink)



Source: Google Maps

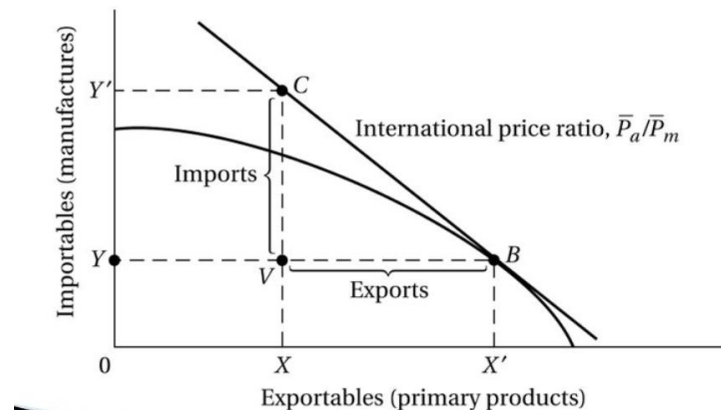
Selangor laid the foundation for the industry and since then the cultivation of oil palm increased at a very fast pace under the government's agricultural diversification program. The primary aim of this was to reduce the economic dependency on rubber and tin. Natural rubber in Malaysia accounts for about $\frac{1}{3}$ of global exports. Malaysia is also rich in minerals, though it accounts for a significant portion of GDP it employs on a tiny fraction of the workforce.

2. Definition

It is important to understand how the Malaysian economy utilized an agricultural resource like the growth of Palm Oil to increase the Gross Domestic Product (GDP) of the economy as well as providing employment to a large number of the workforce. Malaysia, an export economy based on rubber and tin, had brought experts of rapid advance and a high standard of living but this did not lead to industrialization nor technical progress. Rice accounted for the bulk of the exports in

6 Southeast Asian economies like Burma, Thailand, Malaya (or Malaysia) relied on tin while the Philippines on sugar. They use the ‘Vent-for-surplus-model’ which was based on the settling and exploitation of a moving frontier extending horizontally, outwards in the case of agriculture and vertically downwards for mining.

Figure 2: Vent for surplus model for Less developed countries



Source: Google Images

If the economy consists of two sectors, manufacturing, M and Food and primary commodities X. OY defines total person hours available and labor required for each unit of manufactures and primary commodities. The supply of land is not a constraint. There is no separate capital constraint as the economy requires tools that are simple and available to the labor force in the desired quantities. The economy has both surplus land and labor and it lies below the production possibilities frontier. As trade expands, the productive capacity of the economy to transport creates linkages associated with exports. Leading to strengthening of the institutional framework which is conducive to stability and commerce. When Malaya started trading in tin mining, the economy started moving towards the PPF curve, this trade led to pure gain in exchange to primary commodity exports, there were new novelty commodities which were available for the economy which were not available earlier for a subsistence economy like Malaya. The imports that entered the economy were cotton piece goods which replaced handicrafts and were a cheaper way of satisfying wants.

In time, capital item goods like sewing machines stimulated new wants which resulted in a dynamic force leading to further expansion of exports and further moving the economy close to the PPF curve.

With the growth of population, surplus land is brought under cultivation and mineral resources are exploited. This is exactly what happened in Malaya, where tin mines existed western Malaya states in Perak and Selangor. While rubber plantations covered thousands of acres, this completes the model's premise that economic specialization was complete where the economy was producing entirely primary goods which were being traded for other goods.

Malaya developed economically and geographically, as a dual economy with a 'lopsided pattern of development', described by Nurkse, which means the coexistence of a well developed sector with a traditional economy. A large section of the population followed traditional pursuits of rice cultivation and fishing.

2.1 Impact of this resource on the growth of the economy's GDP

In the 1970s the predominantly mining and agricultural based Malaysia economy started transitioning into a multi sector economy, since the 1980s, the industrial sector has led Malaysia's growth. It is the high levels of investment that has played a significant role in this transition. In the initial stages of growth, it was the ample natural resources like palm oil that helped in development under imperial institutions. The other factors like natural resources were its tropical climate and its proximity to the major trade route between Europe and East Asia.

Malaysia's economy transformed since the 1970s based on the export of the following raw materials:

- Rubber
- Tin
- Palm Oil
- Petroleum and Natural gas

The model that Malaysia used for development was the emphasis on 'export led growth' it had a comparative advantage of:

- a relatively inexpensive but educated labor force
- well developed infrastructure
- Political stability
- An undervalued currency

- Foreign investment from Japan and Taiwan

They followed a restructuring strategy that was initially called ‘the New Economic Policy (NEP)’ it was later known as ‘New Development Policy (NDP)’. Both of them followed a balancing act between the goal of economic growth and the redistribution of wealth. The aim of NEP and NDP has been to endow the Malays and other indigenous groups with greater economic opportunities and to develop their management and entrepreneurial skills. They decided to privatize public sector activities including railway, airline, automobile, telecommunication, and electricity companies.

As the economy started developing in the 1970s the importance of the export of raw materials in its GDP started declining and the proportion of the labor force engaged in agriculture decreased from one half to less than one eighth.

This is the model that has been followed by most developed economies where there is a decline in dependency of the labor force and the contribution to GDP from the agricultural sector to the manufacturing and service sector.

Figure 3- Pathway followed by most developed countries.



Source: Own source

It was the rising demand for Malaysia primary groups that was essential for the industrial revolution which initiated development in Malaysia. Trade was the vehicle which transmitted economical development from the industrial countries to the Malaysian economy, foreign trade had thus acted as an ‘engine of growth’. There were no serious impediments to development because the essential ingredients were present namely natural resources, stable government, efficient administration and entrepreneurs. As the development took place in the dynamic export sector along with a static domestic sector, there was little spill-over from the former to the latter due to the absence of forward and backward linkages and exports consisted mainly of semi-processed primary products. This led to the emergence of a dualistic economy and buoyant

dominant export sector, and a static domestic sector. It was only after political independence after 1963 that led to the reduction of the degree of dependence on the economy of external trade the main concern of the government was to develop a manufacturing sector that would replace imports and would rapidly develop a system of mild protection and generous incentives. As a result of this, the manufacturing sector grew at a rate of 9.9% between 1960 and its contribution to GDP increased from 10.4% to 12.85 in the same period. This is extremely important when the GDP growth of the country is 5.5% annually. The attempt was to reduce the share of exports of gdp as excessive specialization in a few commodities are always prone to frequent price oscillations and excessive concentration of export markets in a few countries of the world. This type of growth meant that Malaysia depended on primary exports to a few countries, essentially meaning putting all one's eggs in a few baskets. It was important to diversify and put the eggs into several baskets.

The result of independence of concentration and diversification meant that the share of natural rubber in the export proceeds of Malaysia fell from 62.6% to 39.7% and that of Palm oil increased from 2.1% to 5.9% between 1960 and 1970. This was a result of dramatic palm oil production. The traditional markets from Malaysian exports, that is the UK and the US, grew to be relatively less important and new export markets grew to take dominant positions, for example Japan, USSR. The exports from Japan increased from 1.8% in 1950 to 12.7% in 1965 and that of the USSR from 2.9% to 17.6% in 1965.

After independence, there was an urgent need to address rural development as the economy had huge numbers of people living below the poverty line in the rural areas. They were largely Bumi-Putras. Rural development was urgently undertaken and this assumed the form of creation of infrastructure, improvements in agricultural techniques, introduction of chemical fertilizer applications and expansion of health and education facilities. This helped in improving living standards in the rural areas as well as specialization in indigenous activities. The development machinery was more vigorous as it identified the needs of the nation, and established a set of priorities for effective implementation but they followed the 'traditional free market private enterprise system' and the insignificant role assigned to the public sector.

3. Trends after racial riots in 1969

There were multi-racial riots that occurred in 1969, which changed the path of development that took place in the country. If earlier the dependence of development of material on the export was on raw materials, subsequently manufacturing was given impetus. This involved simple manufacturing processing of rubber, tin, palm oil, food stuff, and light engineering works. Prior to this period, the only two major agricultural commodities were tin and rubber. The new economic policy (1971-1990) after the riots followed by the national development policy (1991-

2000) emphasized on the eradication of poverty irrespective of ethnic group. The plan was successful and the country was able to reduce the influx of poverty from 49.3% in 1970 to 8.9% in 1995. During this period, inequality also reduced the income share of the top 20% of households falling from 55.5% in 1970 to 50.3% in 1989 while that of the bottom 40% increased :from 11.5% to 14.5% in the same period. The more equitable the wealth distribution along with high economic growth led to a vibrant external sector that translated into racial integration and political stability.



Source: <https://www.comparehero.my/budgets-tax/articles/income-inequality-malaysia>

4. Background of the Palm Oil industry

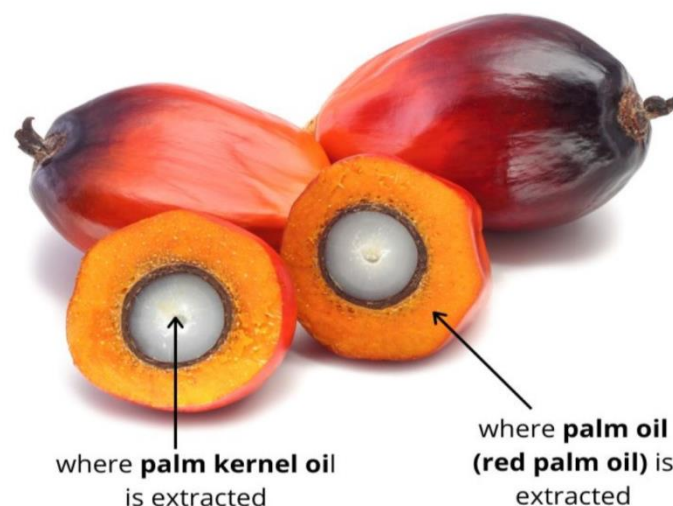
In 2020, Malaysia accounted for 25.8% and 34.3% of the world's palm oil production and exports respectively. Taking into account the other oils and fats produced in the country, Malaysia accounted for 9.1% and 19.7% of the world's total production and exports of oils and fats in the same year.

The refining of crude palm oil started in the early 70s as a response to the new industrial policy that the government had set out, the emergence of refineries marked the start of a wide range of processed palm oil products.

The oil-palm tree bears both male and female flowers on the same tree, it starts producing fruits in bunches after 2.5-3 years of field planting and continues to do so all year long. A typical oil-palm bunch weighs between 20-25 kilograms and contains an average to a 1000-3000 fruitlets. The oil-palm fruit of fruitlet is dark purple almost black and the color turns to orange-red when ripe. Each fruitlet consists of a hard kernel (seed), enclosed in a shell (endocarp) which is surrounded by a fleshy mesocarp. During its lifetime the oil-palm may grow up to 60 feet and live to 100 years. Due to economic reasons, the oil-palm is usually replanted after every 25-30 years.

In Malaysia the oil palm species *tenera*, a hybrid between *dura* and *pisifera*. *Tenera* is chosen because it gives a good ratio of palm oil and palm kernel oil yields, this variety yields 4-5 tons of oil per year and about 1 ton of palm kernels. The oil-palm is the most efficient oil bearing crop in the world due to:

- Its abundance yield per hectare
- Ability to produce more than one type of vegetable oil (palm oil from mesocarp and palm kernel oil from the kernel)
- Long economic life span



Source: <https://nutritionblog.amanwellnutrition.com/post/palm-oil-vs-palm-kernel-oil>



Source: <https://www.palmoil extractionmachine.com>

The oil palm is the most efficient oil bearing crop in the world requiring only 0.26 hectares of land to produce one ton of oil while soya bean, sunflower and rapeseed require 2.22, 2 and 1.52 hectares to produce the same.

4.1 Palm Oil Products

Malaysia's palm oil industry contributes 2.5% to the economy's GDP. Well known for its high palmitic acid content, palm oil areates fat and sugar mixtures well, making it an ideal component for baking. The palm kernel oil is also a suitable raw material for cakes. The fat profile of this oil is very similar to butter and as it is cheaper than butter, it is used as a substitute for baking products. The food industry utilizes 90% of palm oil because of its high content of carotenoids and 10% is used in soap manufacturing. It is the only vegetable oil of 50-50 composition of saturated and unsaturated fatty acids, making it suitable for confectionery manufacturing without the need for hydrogenation. It also has a long shelf-life. The micronutrients of this oil demonstrate major nutritional and health benefits as it includes for example beta carotene, vitamin E, glycerolipids, squalene. This results in the following listed below products of palm oil:

- Cooking Oil- This is the most direct and well-known use of palm oil.

- Baking and bakery products
- Beverages
- Snacks
- Frozen Ice Cream
- Household items like detergent
- Personal care products e.g: toothpaste, mouth wash, etc.
- Infant formula



Source: <http://savetheorangutansandrainforests.weebly.com/more-info.html>

Thus, the above information indicates the widespread use of this product in almost every possible final consumable that one can think of.

5. Protecting Mother Earth

Oil palm crops need less fertilizer and pesticides than other oil crops, resulting in fewer dangerous chemicals leaking into the environment. The disadvantage of this crop is that large

areas of rain forest have been converted into oil palm plantations, resulting in an adverse impact on various species of trees, asian and pygmy elephants and malayan tapirs and impacting the orangutan population as they lose their homes when land is being cleared for growing palm oil trees. The widespread growth of this plant can be responsible for about 50% of deforestation. The advantage is that the oil palm is a very efficient crop compared to sunflower, olive, soy or rapeseed crops. The other oil crops are more expensive to grow than palm oil. Palm production does not need much energy input. The growth of this plant has improved the lives of palm oil employees.

To reduce the impact on rainforest, scientists are trying to find new ways to improve palm oil production so that it has the best impact on the environment. Growers are taking action to improve their practices by reducing the use of pesticides and selecting better seeds to produce more oil from the same area of land. As compliance with good agricultural practices is important for sustainable cultivation, attempts should be made to grow oil palms on fallow and or unused farmland that would maintain the rainforest area.

There are wildlife corridors which are being developed to protect animals and make palm oil production more environmentally friendly. Corridors along rivers within oil palm plantations are very important for invertebrates such as moths and dung beetles. Wildlife corridors would not stop all the negative impacts that farming has on local animals but it will help animals that move around better and provide them with different food sources reducing conflict. Scientists have found that some areas of wild forest should be kept within plantation areas and they should be connected to each other by habitat corridors to maintain biodiversity.

6. Conclusion

Palm oil for Malaysia has been a game changer as it increased per capita income and reduced inequalities of income as well as helped in bringing the standard of living of the ethnic community to an acceptable standard of living. Malaysia has achieved a huge boost in all the above spheres in achieving major economic goals. They have managed to produce the crop in a manner which is as efficient as can be with respect to sustainability and definitely more efficient vis a vis other sources of oil production. The problem is to reduce as far as possible the impact on the environment. Steps, such as reducing the use of pesticides and insecticides, growing palm oil trees preferably on fallow land, making wildlife corridors within the forest as well as along the river for protection of animals will definitely go a long way in environmental protection. But, it is also true that Palm oil will continue to impact biodiversity, this is true for all agricultural products. The aim is to minimize the impact of palm oil production on biodiversity. This can be achieved by being conscious of protecting the environment and following as far as possible the steps that have been stated by the government and environmental friendly agencies.

Bibliography

Economic development of Malaysia: Pattern and Perspective (K.A.M Ariff)

Basri, N. A., Ramli, A. T., & Aliyu, A. S. (2015). Malaysia energy strategy towards sustainability: A panoramic overview of the benefits and challenges. *Renewable & Sustainable Energy Reviews*, 42, 1094–1105. <https://doi.org/10.1016/j.rser.2014.10.056>

Begum, H., Alam, A. S. a. F., & Awang, A. H. (2019). Sustainability of Malaysian oil palm: a critical review. *International Journal of Environment and Sustainable Development*, 18(4), 409. <https://doi.org/10.1504/ijesd.2019.103467>

Dennis, J. BI. (2021). Oil palm in the 2020s and beyond: challenges and solutions. *CABI Agriculture and Bioscience*.

Kadir, A. P. G. (2022). OIL PALM ECONOMIC PERFORMANCE IN MALAYSIA AND R&D PROGRESS IN 2021. *Journal of Oil Palm Research*. <https://doi.org/10.21894/jopr.2022.0036>

Kamarulzaman, N. H., Mukherjee, A., Shamsudin, M. N., & Latif, I. A. (2015). Agility Barriers analysis in the Malaysian palm oil industry. *International Journal of Supply Chain Management*, 4(1). <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/viewFile/1049/pdf>

Mukherjee, I., & Sovacool, B. K. (2014). Palm oil-based biofuels and sustainability in southeast Asia: A review of Indonesia, Malaysia, and Thailand. *Renewable & Sustainable Energy Reviews*, 37, 1–12. <https://doi.org/10.1016/j.rser.2014.05.001>