FROM PLANTATION TO PRICING:
Navigating the Modern Palm Oil Landscape

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Oil palm

EXECUTIVE SUMMARY

Accounting for more than one third of global production, palm oil is now the world's number one source of vegetable oil. Given its application versatility (ranging from baked goods to beauty products) and efficiency (highest oil yield per acre), palm oil is the ideal oilseed to meet the needs of a growing global population in the 21st century.

However, this distinction wasn't achieved without challenges. The production of palm oil has been associated with rainforest destruction and unlawful labor practices. Environmental non-governmental organizations (NGOs) have entered the space using aggressive media campaigns with attention grabbing headlines like "Are Your Cookies Causing Orangutan Extinction?" to garner attention towards the issues[1]. While these tactics have certainly increased focus on the industry's challenges, it has created an environment of uncertainty in which existing users and those considering investing in the sector are not sure how to source reasonably priced, environmentally-friendly palm oil that keeps their brand away from the headlines.

Additionally, palm oil's opaque commodity pricing structure lacks the transparency of other exchanged-traded products (e.g. U.S. soybean oil futures). This lack of market clarity has created a sense of price confusion and frustration for end users.

This paper provides current end users and those considering investment with guidance on best practices for navigating the environmental and market challenges associated with the modern palm oil complex.

[1] "Are Your Cookies Causing Orangutan Extinction?" https://www.ran.org/palm_oil

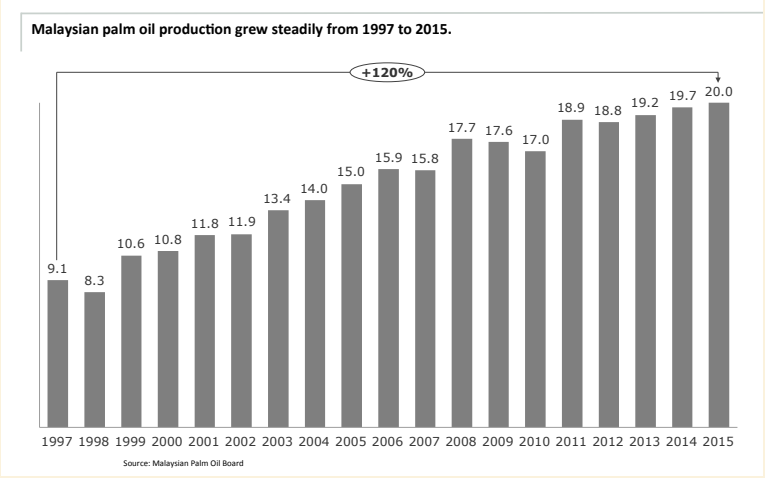
INTRODUCTION

The global palm oil complex is a growing and dynamic industry that has experienced seismic shifts in recent years. Since the late 1990s, global palm oil production has more than doubled. At the same time, there has been increased focus on sustainable production and environmental protection. Today it is very important that end users and investors across the value chain acquaint themselves with the new realities of the industry.

I. Background on Palm Oil

In 1976, world production of vegetable oils was 48 million metric tons, with palm oil accounting for just 7 percent of the total global output. However, in the ensuing 40 years the palm oil market has experienced a surge in production.

By 2014, with global production of vegetable oils reaching 200 million metric tons, palm oil accounted for 33 percent of the total, becoming the world's leading source of vegetable oil and a vital commodity for ensuring the world's food security.



Part of this growth is attributable to palm's productivity and versatility in terms of applications. Palm oil has the highest yield of all oilseed crops, producing more oil per acre than any other oilseed. Additionally, palm oil is an incredibly versatile commodity that can be used in a wide range of food and non-food applications including cooking oils, shelf-stable bakery products, candles, beauty care, and biodiesel.

Palm oil is derived from fruit harvested from the oil palm tree, which is not the same variety that grows in places such as Florida and California. Palm oil production occurs in tropical climates, with over 85 percent of global palm oil production concentrated in Malaysia and Indonesia. West Africa and South America account for the remaining 15 percent of palm oil production.

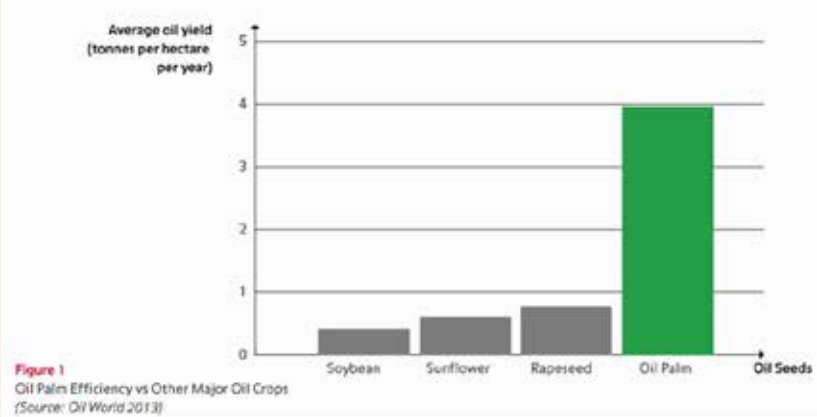


Figure 1
Oil Palm Efficiency vs Other Major Oil Crops
(Source: Oil World 2013)

II. What do new users/investors in the palm oil space need to look out for?

a. Sustainability Issues

1. **Industry Growing Pains.** While the rapid growth of the palm oil industry over the past four decades has benefited the economies of southeast Asia where the oil is produced, this rapid growth in production has not occurred without challenges.

During this period of rapid expansion of acreage for planting, the palm oil industry has encountered a variety of environmental and social challenges. On the environmental side, the main challenge is the negative publicity over deforestation resulting from the expansion of palm plantations. The conversion of rainforests and peatlands to palm plantations results in a variety of negative environmental effects, including increased CO_2 emissions, climate change, biodiversity loss, animal habitat destruction, and increased air pollution downwind from land burnt in preparation of new plantings.

On the social side, the expansion of palm oil plantations has resulted in an increase in incidences of conflicts over land ownership with local indigenous people, child labor abuses, and unfair business treatment of small landholders.

2. **The Industry Responds.** To address these issues, a number of key industry players across the palm oil value chain convened in 2003 to establish the Roundtable on Sustainable Palm Oil (RSPO). The RSPO set out to create a set of global standards that allow for palm oil to be certified as sustainable.

   Today more than 20 percent of global palm oil production is RSPO-certified sustainable. The RSPO has more than 3,000 members, including plantation owners, refiners, financial institutions, and end users.

3. **Certified Oil Not Good Enough**. Despite the palm oil industry's actions to better address its challenges via the creation of the RSPO and certified-sustainable palm oil, there is a perception among NGO's that those efforts do not adequately address the environmental and social impact of palm oil production.

   NGO's have begun pushing palm oil users to demand more transparency into the supply chain that brings palm oil to consumers, regardless of whether or not the oil has been certified as sustainable by the RSPO.

   To bring about swifter change to these issues, NGO's have begun to directly target not just the producers or refiners of palm oil products, but also consumer-facing companies further down the supply chain.

   For example, in late 2016, Amnesty International published a report titled "Palm Oil: Global Brands Profiting from Child and Forced Labour," claiming that companies such as Nestle, Proctor & Gamble, and Unilever had purchased palm products from a refiner in Indonesia who had sourced palm oil from plantations where human rights abuses had occurred.[2] These abuses ranged from the use of child labor to forced labor to unsafe working conditions.

   The impact that the report had on the general public was notable in that it compelled the refiner Wilmar International – the largest grower of palm oil on the planet – to address the issue directly.

   Nestlé announced that it has begun an effort to gain more transparency by retaining its own NGO partner and beginning a process to map out the sources of palm oil within their supply chain.[3]

   For its part, Wilmar International enacted an "action plan" to directly address a number of labor practice issues, including a plan to raise parents' awareness regarding hazards associated with child labor, as well as improved communication with employees regarding the health benefits available to them.[4]

4. **Transparency Means Traceability.** As mentioned above, one approach that companies can take to increase transparency of the palm oil they purchase is through mapping or tracing the oil in their supply chain.

   Within the palm oil complex, traceability refers to the tracking and mapping of the physical locations of the mills and plantations at origin that are used in producing palm oil.

   To achieve "traceability," a company procuring palm oil will request that their palm oil supplier provide the geographical information (business names, physical addresses, GPS coordinates, etc.) of all the mills used in producing their oil.

   This process of applying pressure for increased transparency from the very beginning of the supply chain, has had a major impact on the way palm oil companies conduct business. Today many of the largest palm oil growers on the planet not only have palm oil traceability programs, but even make that information publicly available via online dashboards. It is unrealistic for any participant in the palm oil supply chain not to possess some degree of traceability about the oil they use.

5. **Best Practices for Palm Oil Users.** Given the reality of the palm oil production cycle and role played by NGO's in demanding transparency from companies involved in the global palm oil trade, it is imperative that companies that invest in palm oil be knowledgeable of not only their direct ingredient suppliers, but also of the broader supply chain involved in sourcing palm oil.

   Given the trend towards increased transparency across all parts of the supply chain, it's no longer possible for branded companies using palm oil as an ingredient to deflect responsibility for their procurement decisions and simply claim, "We buy palm from Company X, so if you have questions, ask them."

[2] "Palm Oil Global Brands Profiting From Child and Forced Labour." Amnesty International. November 30, 2016. https://www.amnesty.org/en/latest/news/2016/11/Palm-Oil-Global-brands-profiting-from-child-and-forced-labour/.

[3] What is Nestlé doing to improve palm oil sourcing? http://www.nestle.com/ask-nestle/environment/answers/palm-oil-sourcing.

[4] "WILMAR'S ACTION PLAN TO ADDRESS LABOUR CONCERNS IN NORTH SUMATRA " http://www.wilmar-international.com/sustainability/wp-content/uploads/2017/04/Wilmar%E2%80%99s-Action-Plan-To-Address-Labour-Concerns-In-North-Sumatra.pdf

Rather, end users of palm oil need to be proactive in their procurement strategy, developing policies and procedures that are transparent and publicly state the company's views on palm oil utilization. Above all they must be demanding of their suppliers.

In the U.S., a number of the largest consumer packaged goods (CPGs) companies, from Nestlé to General Mills to Hershey, have been on the leading edge not only of creating meaningful palm oil policies, but of also making that information easily available to the public.

b. Factors Impacting Price

In addition to the environmental and social issues impacting the palm oil industry, investors need to be aware of the various factors that affect the price of palm oil.

1. **Palm oil is a commodity product.** Like other oils derived from corn, soybeans, and rapeseed (canola), palm oil is a commodity subject to price fluctuations based on the prevailing supply/demand market forces. New end users of palm oil would benefit from a better understanding of those factors that affect pricing.

   To illustrate how supply/demand factors impact palm oil pricing, it would be instructive to take a look at the current market outlook.

   The palm oil industry is currently recovering from an El Niño weather pattern in 2016 that caused a severe drought in southeast Asia resulting in the lowest production level since 2010.

   The dry weather and subsequent poor palm oil production caused by El Niño in 2016, was followed by rainy weather (with hopes for increasing output) resulting from a La Niña weather pattern earlier this year. The current market outlook is that palm oil production and stocks in both Malaysia and Indonesia will trend towards their pre-El Niño levels through the end of 2017.

   Regardless, the impact was notable. From January 1 to December 31, 2016, prices of palm oil in Malaysia were up 30 percent. The high prices at the end of 2016 were particularly painful because Q4 is historically the period of the year when values are at their lowest and end users are eager take long positions into the following year. As a result, many bought at the very top of the market.

   In reflecting on 2016, one can see how a conservative viewpoint to palm oil sourcing and price analysis was the preferred approach to addressing high prices. Certainly, there were plenty of users who "took their medicine" during this period, and bought at levels which were likely not in-line with their yearly KPI's.

   However, others opted to wait. Given that palm oil has a three to four month shipment time from Asia to the U.S., waiting too long not only puts an organization at serious risk of not being able to secure a source of raw material, but also forces that buyer to pursue the nearby or "spot" market. Those who waited saw even worse price volatility in the early part of 2017 and in some cases, were unable to secure the volumes they needed.

   In order to avoid situations where traders are over-reliant on market analysis and buying decisions become no different than stock-picking or horse betting, organizations should consider developing a sourcing risk management protocol that sets the ground rules for when and how raw materials are purchased.

2. **Price Inefficiencies.** While the palm industry is subject to the prevailing supply/demand fundamental trends similar to many other soft commodities produced in the U.S., there is no U.S.-based futures contract (such as the Chicago Board of Trade (CBOT) Soybean oil futures) to enable benchmarking of daily price fluctuations.

   Though there are a few markets for palm oil in both Asia and Europe that are worth tracking on a daily basis, they lack some combination of trade liquidity, price transparency, currency risk, or are skewed due to product misalignment. As a result, it is incumbent on producers, end users, and investors to arm themselves with the most up-to-date market information available and be cognizant of the limitations of the global pricing mechanism for palm.

NEXT STEPS

Investors targeting potential investment in the palm oil space should consider the following questions:

- Where do we stand on palm oil sustainability? What's important to us?
- Are we willing make a public statement regarding our priorities?
- Would we consider partnering directly with an NGO to help develop a palm oil traceability mapping program?
- How would we respond to allegations that palm oil in our supply chain was not produced in a manner that we can be proud of?
- How can we make our stance on palm sustainability a tangible asset that creates value, and not just a PR response?
- How do we analyze supply/demand market fundamentals?
- Do we have a set of risk management sourcing procedures as part of our raw material procurement program?

As investors consider responses to these questions, they will discover that the solutions provide an opportunity to make growth across the entire palm oil value chain more sustainable for all.

CONCLUSION

From explosive growth to confronting environmental challenges to addressing inefficiencies in pricing mechanisms, the palm oil industry has experienced dynamic changes and challenges in recent decades. Given the growth in the world's population and improvements in diets resulting from increases in per capita GDP in developing markets leading to increased usage of palm products, demand for palm oil is expected to only increase in the coming years.

End users need to take an active role regarding environmental protection and hold suppliers accountable to their public commitments. Additionally, end users need to understand the market fundamentals that impact palm oil pricing and create a documented framework for managing commodity price risk. In doing so, end users will not only have created a more sustainable supply chain for future generations, but they will have accomplished this goal while minimizing price risk through effective risk management. This represents a great opportunity for all players across the value chain.

ABOUT THE AUTHOR

Mark Zavodnyik is a project manager at HighQuest Partners, a strategy advisory firm focusing exclusively on the food and agribusiness sectors.

Prior to joining HighQuest, Zavodnyik was the lead Tropical Oils Trader at AAK USA where he was responsible for all palm, palm kernel, and coconut oil sourcing, trading, and risk management for AAK facilities in the United States. As part of this role, Zavodnyik was responsible for the due diligence analysis of the raw material sourcing and risk management function of potential acquisition targets.

Zavodnyik has spoken at a number of industry conferences providing an overview of the supply/demand factors impacting tropical oil markets, as well as the efforts the industry has undertaken to make palm oil more environmentally sustainable.

Prior to joining AAK, he was a senior associate with KMPG LLP's regulatory advisory practice, consulting investment advisers, hedge funds and other financial firms on a variety of issues impacting the financial regulatory landscape. Zavodnyik received his BA degree from the University of Notre Dame.

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