Malaysian Palm Oil: Assuring Sustainable Supply of Oils & Fats Into The Future

PRESENTATION BY
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Chief Executive Officer
Malaysian Palm Oil Council
1. Palm oil’s dominance in the Oils and Fats market
2. Long term Demand of Palm Oil is strong
3. Long Term and Short Term Strategies
4. Short Term Problems in duopolistic (oligopolistic) markets
   • Value Destruction Activities
5. Conclusion
Dominance of Palm Oil

Total Oils & Fats Demand (million tonnes):

- 1996/2000: 103.4
- 2001/2005: 121.2
- 2011/2015: 156.4
- 2016/2020: 175.3

Source: Oil World 2020
Oils & Fats Exports 1990 - 2011

1990
- Palm Oil: 57%
- Soybean Oil: 14%
- Sunflower Oil: 8%
- Rapeseed Oil: 5%
- Others: 16%

2011
- Palm Oil: 57%
- Soybean Oil: 14%
- Sunflower Oil: 8%
- Rapeseed Oil: 5%
- Others: 16%
IMPORTANCE OF PALM OIL & ITS DERIVATIVES

1. Source of food (global food security): 80%
2. Oleochemicals: 15%
3. Biofuel: 2%
4. Renewable energy source: Potential Remains Largely Untapped through Palm Biomass

Palm Oil Currently Accounts for 28% of Global Oils & Fats Supply

- Palm Oil: 29%
- Others: 23%
- Sunflower Oil: 13%
- Rapeseed Oil: 7%
- Soybean Oil: 28%
Net Importing & Exporting Countries for Oils and Fats (2011)
The world population is projected to grow from 7 billion in 2011 to 9 billion by 2043, an increase of 29 percent. Food production must meet this rate of increase.

The world population is projected to grow from 7 billion in 2011 to 9 billion by 2043, an increase of 29 percent. Food production must meet this rate of increase.
Per capita crop land has declined since 1960 thus more pressure on farms to increase yields.
Fighting Hunger Worldwide

The cost of hunger to developing nations is an estimated US$450 billion per year.

It takes only 25 US cents for WFP to give a hungry schoolchild a cup of food with all the nutrition needed for the day.

The number of undernourished people worldwide is just under 1 billion – equivalent to the population of North America and Europe combined.

Hunger Map 2011

<table>
<thead>
<tr>
<th>Category</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Incomplete data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undernourished</td>
<td>&lt;5%</td>
<td>5-9%</td>
<td>10-19%</td>
<td>20-34%</td>
<td>≥35%</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Extremely low</td>
<td>Very low</td>
<td>Moderately low</td>
<td>Moderately high</td>
<td>Very high</td>
<td></td>
</tr>
</tbody>
</table>

Source: The State of Food Insecurity in the World 2016, Food and Agriculture Organization of the United Nations. Please note: the 2015 data has in some cases dates back to 2014 as it may not always reflect the prevailing situation in individual countries.

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This designation and the presentation of material in this map do not imply the expression of any opinion whatsoever on the part of WFP concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers.

* The Line of Control in Jammu and Kashmir agreed upon by India and Pakistan is represented on the map by a dotted line. The final status of Jammu and Kashmir has not been agreed upon by the parties.
** A dispute exists between the governments of Afghanistan and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Taliban District (Wakhan).
High Land Productivity of Oil Palm Yield – Palm Oil vs Other Oilseeds

Productivity of oil palm is:

• 11x more than soyabeans
• 10x more than sunflower
• 7x more than rapeseed
World’s growing dependence on palm oil will boost demand further into the future.

Source: Oil World
### Population growth drives preference for palm oil as food, avoiding more land conversion to other oil seed crops

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (billion)</th>
<th>2025</th>
<th>2040</th>
<th>2080</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>7.9</td>
<td>8.5</td>
<td>9.1</td>
</tr>
<tr>
<td>Projected Additional Palm oil to be supplied by Malaysia (m MT)</td>
<td></td>
<td>2.7</td>
<td>5.3</td>
<td>7.7</td>
</tr>
<tr>
<td>Estimated Additional land needed for palm oil cultivation in Malaysia (m ha)</td>
<td></td>
<td>0.7</td>
<td>1.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Additional land needed to cultivate <strong>Rapeseed</strong> to offset this oil palm cultivation (m ha)</td>
<td></td>
<td>4.5</td>
<td>9.0</td>
<td>13.4</td>
</tr>
<tr>
<td>Additional land needed to cultivate <strong>Sunflower</strong> to offset oil palm cultivation (m ha)</td>
<td></td>
<td>5.7</td>
<td>11.3</td>
<td>17.0</td>
</tr>
<tr>
<td>Additional land needed to cultivate <strong>Soybean</strong> to offset oil palm cultivation (m ha)</td>
<td></td>
<td>7.2</td>
<td>14.4</td>
<td>21.6</td>
</tr>
</tbody>
</table>

- 7-11 times more land needed if other oil crops were to substitute Malaysian palm oil to meet future demand.
- 21.6 m ha of land needed for soybean cultivation in 2080 is equivalent to 2/3 of land area of Malaysia.
## PROJECTED WORLD REQUIREMENTS FOR FOOD & BIOFUELS (MT)

<table>
<thead>
<tr>
<th>Source</th>
<th>2015</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>147.2</td>
<td>160.7</td>
</tr>
<tr>
<td>Biofuels</td>
<td>57</td>
<td>102</td>
</tr>
<tr>
<td>TOTAL</td>
<td>204.2</td>
<td>262.7</td>
</tr>
</tbody>
</table>

Source: Legge (2008)
World Energy Demand—Long-Term Energy Sources

Due to the manner in which the production decline rate is developing, the IEA anticipates a powerful decline in production in all oil fields from 70 million barrels/day in 2007 to 27.1 million barrels in 2030 (see Illustration 5).

Illustration 5: Development of petroleum production in current fields

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22 Höök, Hirsch and Aleklett 2009
23 IEA 2008a.
1. Increasing biodiesel consumption mandates in Brazil and Argentina along with robust European demand continues to divert South American soybean oil into the fuel market.

2. While the United States has seen some gain in soybean oil exports as a result of the limited South American supply, most of the offset has been in larger global exports of palm oil.

3. Further growth in biodiesel production is expected as capacity expands in response to additional consumption mandates.
Figure I. Trend in EU biodiesel production 1998-2011 Source: EBB 2011

Note: 2011 figures are only estimations.
## Global Supply and Demand of Oils & Fats 2006-2012 (F)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opening Stock</strong></td>
<td>17,799</td>
<td>18,404</td>
<td>19,526</td>
<td>20,589</td>
<td>21,327</td>
<td>22,158</td>
</tr>
<tr>
<td><strong>Production</strong></td>
<td>153,735</td>
<td>159,876</td>
<td>164,586</td>
<td>172,011</td>
<td>179,380</td>
<td>179,422</td>
</tr>
<tr>
<td><strong>Import</strong></td>
<td>56,275</td>
<td>59,831</td>
<td>63,029</td>
<td>64,936</td>
<td>66,599</td>
<td>70,277</td>
</tr>
<tr>
<td><strong>Export</strong></td>
<td>57,779</td>
<td>60,609</td>
<td>63,827</td>
<td>66,147</td>
<td>68,232</td>
<td>69,248</td>
</tr>
<tr>
<td><strong>Consumption</strong></td>
<td>151,626</td>
<td>157,975</td>
<td>162,726</td>
<td>170,061</td>
<td>176,917</td>
<td>182,301</td>
</tr>
<tr>
<td><strong>Ending Stock</strong></td>
<td>18,404</td>
<td>19,526</td>
<td>20,589</td>
<td>21,327</td>
<td>22,158</td>
<td>20,807</td>
</tr>
<tr>
<td><strong>Stock Usage Ratio</strong></td>
<td><strong>12.14%</strong></td>
<td><strong>12.36%</strong></td>
<td><strong>12.65%</strong></td>
<td><strong>12.54%</strong></td>
<td><strong>12.52%</strong></td>
<td><strong>11.14%</strong></td>
</tr>
</tbody>
</table>
Based on supply and demand factors, the price of palm oil should be RM3,400 but is currently trading at RM2,450. The price is artificially pushed down by undercutting of prices.
Food Security
Supply from Palm Oil

- We forecast that there will be a supply shortage of about 2 million MT of oils & fats in 2012.
- Despite the improvement in weather conditions in US and South America, oilseed production is not expected to improve as it will only be harvested in late 2012.
- Palm oil has always been a stable and reliable supplier of oils & fats.
- Malaysian palm oil, despite the gloomy earlier projection is forecast to produce at least 18 million MT this year.
- This shows the crucial role Malaysian palm oil will play in the supply of oils & fats to the world.
Long term Strategies

1. Sustainable supply.
   Multiple certification schemes
   RSPO, MSPO, etc

2. Increased Productivity
C4. CSPO Annual Production Capacity (Mt, %) by Country

- **INDONESIA**, 2,707,249, **45%**
- **MALAYSIA**, 2,692,230, **45%**
- **BRAZIL**, 125,793, **2%**
- **COLOMBIA**, 22,000, **0.4%**
- **IVORY COAST**, 5,760, **0.1%**
- **SOLOMON ISLANDS**, 28,830, **0.5%**
- **PAPUA NEW GUINEA**, 435,331, **7%**
### Malaysia’s deforestation rate is lowest

#### Forest area & deforestation rate in selected countries (1990-2010)

<table>
<thead>
<tr>
<th>Country</th>
<th>2000 (Million ha)</th>
<th>2005 (Million ha)</th>
<th>2010 (Million ha)</th>
<th>2000-2005 (Million ha)</th>
<th>2005-2010 (Million ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>154.92</td>
<td>153.92</td>
<td>149.30</td>
<td>1.0</td>
<td>4.62</td>
</tr>
<tr>
<td>Indonesia</td>
<td>99.41</td>
<td>97.86</td>
<td>94.43</td>
<td>1.55</td>
<td>3.43</td>
</tr>
<tr>
<td>Argentina</td>
<td>31.86</td>
<td>30.60</td>
<td>29.40</td>
<td>1.26</td>
<td>1.20</td>
</tr>
<tr>
<td>Malaysia</td>
<td>21.59</td>
<td>20.89</td>
<td>20.46</td>
<td>0.70</td>
<td>0.43</td>
</tr>
</tbody>
</table>

Source: FAO Global Forest Resources Assessment (2010)

- Malaysia would not deforest unnecessarily and will continue to use land judiciously
- Committed to Rio Summit pledge – to maintain at least 50% of total land area under forest
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Area or %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysian palm oil area</td>
<td>4.85 million ha</td>
</tr>
<tr>
<td>Malaysian agricultural land area</td>
<td>6.89 million ha</td>
</tr>
<tr>
<td>Total world land area for vegetable oils</td>
<td>244 million ha</td>
</tr>
<tr>
<td>Total world agricultural land area</td>
<td>5,660 million ha</td>
</tr>
<tr>
<td>Malaysian palm oil as % of total Malaysian agricultural land area</td>
<td>70%</td>
</tr>
<tr>
<td>Malaysian palm oil as % of total world land area for oil bearing crops</td>
<td>2.0 %</td>
</tr>
<tr>
<td>Malaysian palm oil as % of total world agricultural land area</td>
<td>0.09% (of 5,660 million ha)</td>
</tr>
<tr>
<td>Malaysian palm oil’s contribution to global oils &amp; fats supply</td>
<td>11.4%</td>
</tr>
</tbody>
</table>
Distribution of forest in Malaysia versus other countries

- **Average 23%**
- **Average 51%**

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>10</td>
</tr>
<tr>
<td>US</td>
<td>30</td>
</tr>
<tr>
<td>France</td>
<td>20</td>
</tr>
<tr>
<td>UK</td>
<td>10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>70</td>
</tr>
<tr>
<td>Thailand</td>
<td>50</td>
</tr>
<tr>
<td>Cambodia</td>
<td>50</td>
</tr>
<tr>
<td>Myanmar</td>
<td>40</td>
</tr>
</tbody>
</table>
Impact of Oil Palm Forest on CO2 emission
MALAYSIAN GREENHOUSE GAS EMISSION AND REMOVAL

Total Co2 Removal by plantation and forest: 249.8 MT
Total Co2 Emission: 223.1 MT
Total Co2 Emission by Energy Sector: 217 MT
Total Co2 Emission by Others: 49 MT
Emission by LULUCF + Agriculture (Rice) Sectors: 26.9 MT
Emission by Others: 49 MT
Total Co2 Removal By Forest and plantation: 247 MT

LULUCF = Land use and land use change and forestry
The production of Sustainable Palm Oil

- Consumer demand for palm oil requires it not only to be safe and high quality but also sustainable.
- The EU demand for CSPO will be fully met as there are ample supply of CSPO.
- “Customers are always right” to this end Malaysia will meet and supply what the customers want.
C6. CSPO Supply, Sales (mt); Uptake (%) by Year

CSPO Supply / Sales (mt)

- CSPO Supply
- CSPO Sales
- CSPO Market Uptake by Year
- Poly. (CSPO Market Uptake by Year)

Note: Market Uptake ratio for the past 12 months
Poor uptake of Certified Sustainable Palm Oil

- CSPO production in 2011 was 5.6 million tonnes. As at March 2012 CSPO production was 6 million tonnes.
- Malaysian and Indonesian plantations contribute 45% each of RSPO production, & South America (2.4%).
- Poor uptake of CSPO by MNCs such as Nestle and Unilever.
- Implementation date pushed back by MNCs.
- Malaysia will continue to increase certified production and comply with an ever increasing stringent set of mandated standards.
Malaysian responsible palm oil
Malaysian deforestation free palm oil
Assurance through aggregate compliance, 100% licencing
Malaysian palm oil dedicated primarily for food supply while biofuel use is minimal.

<table>
<thead>
<tr>
<th>Year</th>
<th>CPO production (t)</th>
<th>Biodiesel production (t)</th>
<th>Biodiesel production as % of total CPO production</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>15,823,745</td>
<td>128,236</td>
<td>0.81%</td>
</tr>
<tr>
<td>2008</td>
<td>17,734,441</td>
<td>197,610</td>
<td>1.11%</td>
</tr>
<tr>
<td>2009</td>
<td>17,564,937</td>
<td>238,469</td>
<td>1.36%</td>
</tr>
<tr>
<td>2010</td>
<td>16,993,000</td>
<td>190,374</td>
<td>1.13%</td>
</tr>
<tr>
<td>2011</td>
<td>18,911,520</td>
<td>49,999</td>
<td>0.26%</td>
</tr>
</tbody>
</table>
### Productivity improvement: Malaysian Palm Oil Production Efficient Use of Land

<table>
<thead>
<tr>
<th>Year</th>
<th>Land and Area ('000 Ha)</th>
<th>Production ('000 MT)</th>
<th>Efficiency Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>1,480</td>
<td>4,133</td>
<td>1:2.79</td>
</tr>
<tr>
<td>1990</td>
<td>2,030</td>
<td>6,095</td>
<td>1:3.00</td>
</tr>
<tr>
<td>2000</td>
<td>3,370</td>
<td>10,840</td>
<td>1:3.22</td>
</tr>
<tr>
<td>2005</td>
<td>4,050</td>
<td>14,961</td>
<td>1:3.69</td>
</tr>
<tr>
<td>2011</td>
<td>4,980</td>
<td>18,912</td>
<td>1:3.80</td>
</tr>
</tbody>
</table>
Two Short Term Problems faced by the palm oil industry in
Managing a duopolistic (oligopolistic) market

Problem No 1

- Indonesian duty structure encourages their exporters to undercut prices in the market
- In an oligopolistic supplier market, undercutting by Indonesia will force Malaysian exporters to lower prices and/or to pile up stocks
- Over the last one year, price lowering has taken place despite the world shortage of oils & fats, and stocks have built up lately leading to a further sharp price decline despite lower annual production in Malaysia.
Impact of Mis-Managing a duopolistic market

- Malaysian stocks have increased to record levels despite lower yearly production compared to last year.
- Price has decreased by RM1,000 per MT and with each country exporting 20 million MT of palm oil products, RM20 billion would vanish from the revenue of each country if the low prices were to prevail for 1 year.
The government of both countries lose RM5 billion in corporate tax.

Indonesia will not be able to collect another RM5 billion in export tax – now not collectable due to low price of palm oil.

Buyers will initially gain from lower prices, but price instability will disrupt trade (defaults) and force bankruptcies when stocks bought earlier are over priced when marked to market.
Value Recovery Activities

- Malaysia can reduce 300,000 MT of supply by incentivizing the cutting of 100,000 hectares of old oil palm for replanting, within a short period of implementation.
- Malaysia can increase biodiesel usage by extending blending to the whole of Peninsula Malaysia from existing central region with 4 states participating. Blending could also be extended to the non-subsidised industry fuel sector, which can utilise up to 300,000 MT per year.
Value Recovery Activities (Cont'd)

- In the near term duty free CPO can be exported more efficiently once tank farms (now full) are organized to allow CPO clear passage for loading onto ships for exports. Some 2.5 million MT per year is exportable till 1 Jan 2013 when Malaysian duty is reduced to 4.5% to 8% range. CPO will be in demand by local and foreign buyers and price will recover.
Action By Duopolistic partner

- Indonesia could also undertake all similar measures to be undertaken by Malaysia. They need to help prevent the RM20 billion potential loss in revenue.

- Lesson learnt: unilaterally raising the stake (favourable duty structure) or playing a win-lose strategy was a painful mistake; it backfired in a duopoly market, resulting in a lose-lose outcome.
RSPO and Non-RSPO palm oil also form a duopoly supply market.

ENGOS who campaign negatively against non-RSPO palm oil are raising a unilateral stake, and it is a mistake.

A win-lose strategy will backfire and result in a lose-lose outcome for both suppliers.
Short Term Strategies
Value Destruction of Palm Oil

- Environmental NGOs (ENGO) anti palm oil campaigns destroy value of palm oil
- Discriminatory labeling increases cost to both palm oil users and non palm oil users, and to consumers
- Negative campaigns destroy demand in general, as the oils & fats are oligopolistic markets. If palm oil prices fall, it will drag the prices of other oils & fats downwards, leading to value destruction for all producers
Certified RSPO is touted by ENGOs as the environmentally friendly way for manufacturers in the EU to use in their products. RSPO NGO supporters should oppose the campaign by French NGOs and food manufacturers to discriminatorily label palm oil.

ENGOs like WWF who initially introduced RSPO should make their stand clear. They should not support boycott of palm oil as this will also exclude RSPO certified palm oil from being used.
Action to overcome the predicament: Introduce Responsible Palm Oil and Deforestation Free Palm Oil From Malaysia

- All Malaysian palm oil is responsibly produced
- Malaysia follows the deforestation standard set by developed countries but does not exceed the percentage of any developed country
- All Malaysian palm oil is relatively deforestation free.
Malaysian Deforestation Free (MDF) Palm Oil Can be Certified With 100% Compliance

- All plantations are licensed to operate on legitimate agricultural land and this is strictly enforced by Malaysian Palm Oil Board (MPOB)
- Plantation is part of agriculture sector which is benchmarked to use less land in percentage compared to standard set in developed countries (Even though the country is still developing and has not yet fully developed its land assets)
Malaysia commits to conserve a higher percentage of forest than the benchmark set in developed countries (presently 50%)

Malaysia reports regularly to the UNFCC the negative carbon footprint of the oil palm industry (Oil palm plantations are net remover of CO2 from the atmosphere)
Greenhouse gas emission

• The Malaysian Palm oil industry has negligible carbon footprint of 0.015% of global total GHG emission.

• Doubling the planted area does not cause any significant increase in emission.

• Durban climate change meeting did not achieve any immediate GHG reduction commitments. Canada withdrew from Kyoto protocol to reserve its right to mine tar sand and continue to generate GHG.

• Why must palm oil be penalized now with GHG reduction commitments through RSPO, RED, and EPA's RFS2, when the world will only talk seriously on GHG emission in 2020?

• Green protectionism? Green colonialism? Vested Interests?
Conclusion

• Palm oil will continue to be a major source of oils & fats that is required to meet global food security demands.

• Oil palm cultivation is shown to require less land to produce each unit equivalent of edible oil.

• When arable land is limited, it makes sense to choose palm cultivation over other oilseeds given the higher yields from oil palm.

• Higher yield projections increasing stepwise from 4Mt/ha to almost 12Mt/ha will make palm the oilseed crop of choice in many countries aspiring for greater food (oils) security.
Malaysia is a signatory to UN sponsored biodiversity agreements & honors these pledges even while seeking economic advancements.

Limited land and labour availability will require Malaysian palm oil industry to conserve land and move towards responsible cultivation practices.

Malaysia has pledged at least 50% of country’s land under forest cover.

Certification is voluntary and mostly welcome by the industry that has clearly demonstrated its ability to meet international standards, despite low offtakes and negligible premium offered by buyers.

Sustainability is not an issue for Malaysian palm oil, but made an issue by the western environmental NGOs.
World supply (lower soyabean crops) has not been able to replenish stocks for the 3rd year running. However, softening demand and price distortion in Indonesia may prevent palm oil prices from rising in the near future, and it should be maintaining a good discount to soyabean oil, making it attractive to buy.

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