Presentation

1. Relook at definition of sustainability
2. RSPO and what TFT found about RSPO
3. Market place sustainability requirements for raw materials for food
4. Market place sustainability requirements for palm oil for food
5. Are sustainability demands on palm oil real and fair?
6. How does Malaysian palm oil producers manage such demands?
7. Malaysia’s own effort to make palm oil more sustainable
8. Conclusions
1. Sustainability: global view

- United Nations view is global / international
- BRUNTLAND REPORT
- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Taking care of Planet)
- the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given (Uplifting livelihood of people)
- The PEOPLE factor often forgotten
Sustainability Model for Developing countries (3Ps + 1D Model)

In line with global view of sustainability “Bruntland”
Malaysia is 2nd largest dominant supplier of RSPO certified palm oil to world.

RSPO certified palm oil: % share in world market:

- Malaysia: 45.3%
- Indonesia: 46.8%
- PNG
- Rest
The Forest Trust (TFT) study on RSPO

- Found 4 limitations to RSPO-driven market
  1. Climate change & deforestation impacts are largely ignored
     - clearance of peat & high carbon stock land is seldom addressed in ‘sustainable palm oil’
  2. “Book & Claim” & “Segregation” options do not drive change in the supply chain
     - companies wanting traceable palm oil have to pay large premiums to refiners & very few consuming markets can absorb such a cost increase
3. Smallholders are being actively excluded from supply chains
- 40% of world’s palm oil is produced by smallholders & expensive & resource-intensive certification-driven approach results in their exclusion

4. It’s not fast enough
- Takes time for growers to meet extensive, detailed list of certification indicators
Agriculture Sustainability

- One of the most comprehensive views comes from global food giant “Unilever”
- Source:- Unilever Sustainable Living: Sustainable Sourcing
- Unilever acknowledges that different agricultural raw materials have different growing methods
- Over 15 years working on Sustainable Agriculture Programme, have developed “guidelines on sustainable agriculture” for their key crops including palm oil, cocoa, rapeseed, soya, tea etc.
- Sustainable agriculture sourcing based on 11 indicators (social, economic & environment)
- Applied to all materials sourced for sustainability
Palm oil is able to meet Unilever’s Guidelines on Sustainable Agriculture Sourcing (2012)

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Malaysian palm oil practices/ Comments</th>
<th>Malaysian palm oil can meet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Soil health: improving soil quality &amp; its ability to support plant &amp; animal health</td>
<td>Good agriculture practices</td>
<td>✓</td>
</tr>
<tr>
<td>2</td>
<td>Soil loss: reducing soil erosion which can lead to loss of nutrients</td>
<td>Good agriculture practices</td>
<td>✓</td>
</tr>
<tr>
<td>3</td>
<td>Nutrients: reducing loss of nutrients through harvesting, leaching, erosion &amp; emissions to air</td>
<td>Good agriculture practices</td>
<td>✓</td>
</tr>
<tr>
<td>4</td>
<td>Pest management: reducing use of pesticides</td>
<td>Integrated pest management</td>
<td>✓</td>
</tr>
<tr>
<td>5</td>
<td>Biodiversity: helping to improve biodiversity</td>
<td>Steps taken by industry e.g. MPOWCF</td>
<td>✓</td>
</tr>
<tr>
<td>6</td>
<td>Farm economics: improving product quality &amp; yield</td>
<td>MPOB’s research</td>
<td>✓</td>
</tr>
</tbody>
</table>
### Palm oil is able to meet Unilever’s Guidelines on Sustainable Agriculture (cont)

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Malaysian palm oil practices/ Comments</th>
<th>Can meet</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Energy: reducing GHG emission associated with farming</td>
<td>Methane capture in mills By 2020, all mills to capture methane</td>
<td>✓</td>
</tr>
<tr>
<td>8</td>
<td>Water: reducing loss &amp; contamination of water supplies from agriculture</td>
<td>DOE’s laws on water pollution</td>
<td>✓</td>
</tr>
<tr>
<td>9</td>
<td>Social &amp; Human Capital: ensuring capacity of people to earn &amp; sustain their livelihoods as well as enhancing farmers knowledge, training &amp; confidence</td>
<td>1) Improving income of settlers &amp; smallholders 2) TUNAS</td>
<td>✓</td>
</tr>
<tr>
<td>10</td>
<td>Local economy: helping sustain local communities</td>
<td>Improving income of settlers &amp; smallholders</td>
<td>✓</td>
</tr>
<tr>
<td>11</td>
<td>Animal welfare: ensuring animal standards are based on the ‘five freedoms’ defined by Farm Animal Welfare Council</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
### Unilever’s Targets place high confidence and pressure on palm oil (2012)

<table>
<thead>
<tr>
<th>Vegetable oil</th>
<th>Commitment at end 2012</th>
</tr>
</thead>
</table>
| Palm oil      | • 100% from sustainable sources:  
|               | • 97% via Greenpalm certificates  
|               | • 3% through segregated supply |
| Soya          | • 10% soya oil through RTRS certification  
|               | • soya beans: to make steady progress towards certified supply |
| Sunflower     | 14% to be sustainably sourced |
| Rapeseed      | 16% to be sustainably sourced |

Source: Unilever Sustainable Living: Sustainable Sourcing

- Unilever demands 100% palm oil sourcing to be sustainable
- Does it mean that palm oil industry is the only good industry which can deliver sustainable raw material?
- OR Harsh on palm oil but not others (Not level playing field then)
- Puts palm oil at disadvantage (unfair)
Nestle’s Responsible Sourcing Guideline (2013)

- In September 2013, Nestle came up with Nestle’s Responsible Sourcing Guideline for materials which included palm oil & soya
- Sunflower & rapeseed dropped from the list. In 2012, they were in Unilever’s list. (Why were they dropped?)
Nestle’s Responsible Sourcing Guideline
Specific Requirements for Palm oil

- Suppliers to verify that palm oil:
  1. Does not come from areas cleared of natural forest after November 2005
  2. Derived from farms that operate in compliance with local laws & regulations
  3. Respect FPIC of indigenous & local communities on activities on their customary lands
  4. Protect peatlands
  5. Protect forests of “high C” value using methodology developed by TFT, Greenpeace & Golden Agri Resources
  6. Complies with RSPO P&Cs
Are Malaysian palm oil producers able to meet the demands?

YES.

For Numbers (2) and (3):

2. Derived from farms that operate in compliance with local laws & regulations.

3. Respect FPIC of indigenous & local communities on activities on their customary lands.
Are Malaysian palm oil producers able to meet the demands?

1. Palm oil supply must not come from areas cleared of natural forest after November 2005

COMMENTS:-

- What is “natural forest?”
- Following FAO, “Forest is
  - land where tree crown cover > 10%
  - area > 0.5 ha
  - trees can reach > 5m at maturity

- In tropical countries where oil palm is grown, almost all land can regrow back to forest in a short time (except maybe tin mining areas)
- Similarly new oil palm may infringe on item 5. Protect forests of “high C” value
- Does that mean no more expansion of oil palm area?
Addressing Food Security

- Need to feed 9 billion world population by 2080
- Palm oil is agriculture based and needs land for production
- Palm oil options:
  - Increase productivity on existing land
  - Clear new land for planting oil palm
Option 1: Malaysian plantations prioritize to improve yield on existing land

- More estates using clonal materials now
- MPOB intensifies research
- Using new land is second option

Source: MPOB
**Option 2: Using new land for oil palm causes less deforestation than other vegetable oils due to its high land productivity**

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

- 7-11 times more land needed if other oil crops used
- 21.6 m ha of land for soya cultivation in 2080 is 2/3 land area of Malaysia
- **DEFORESTATION or AVOIDANCE OF DEFORESTATION**
Palm oil producing countries have very high proportion of land under forest

Average: 25.5%
Malaysia is still honouring her commitment 22 years after Rio Summit

Average: 57%
Utilization of World’s Agricultural Land

- Livestock, 71.27%
- Oil Palm, 0.29%
- Oilseeds, 5.25%
- Other crops, 23.17%

Total area: 4.911 bil ha


Livestock industry uses the most land and therefore is the main driver for global deforestation. Oil palm has been made a scapegoat.
Land Use, Land Use Change and Forestry (LULUCF) is made up of Forestry and (Oil Palm) Plantation Sector

* Trend Estimate

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Co₂ Emission</th>
<th>Total Co₂ Removal by LULUCF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>223.1</td>
<td>249.8</td>
</tr>
<tr>
<td>2007</td>
<td>292.9</td>
<td>247</td>
</tr>
<tr>
<td>2022</td>
<td>460*</td>
<td>273</td>
</tr>
</tbody>
</table>

- **Total Co₂ Emission**: The total greenhouse gas emissions across all sectors.
- **Total Co₂ Removal by LULUCF**: The total greenhouse gas removals attributed to LULUCF.

**Breakdown by Sector**:

- **Energy Sector**: Emissions and removals in the energy sector.
- **Others**: Emissions and removals in other sectors.
- **Palm Plantation**: Emissions and removals in the palm plantation sector.
- **Agriculture (Rice)**: Emissions and removals in the agriculture (rice) sector.

* Trend Estimate

- **Emission by Energy Sector**:
  - 2000: 167 MT
  - 2007: 217 MT
  - 2022: 375* MT

- **Emission by Others**:
  - 2000: 82 MT
  - 2007: 49 MT
  - 2022: 57* MT

- **Emission by Palm Plantation**:
  - 2000: 35.6 MT
  - 2007: 26.9 MT
  - 2022: 28* MT

- **Emission by Agriculture (Rice)**:
  - 2000: 40.5 MT
  - 2007: 100* MT
  - 2022: 121* MT

**MALAYSIAN GREENHOUSE GAS EMISSION AND REMOVAL**
Malaysia is a net C sink internationally according to UNFCCC (Highest & lowest emitters in world)

In Year 2000

Source: UNFCCC
Chapter Four
Peat and Oil Palm

“The planting of oil palm on peat demands significantly more intense efforts in terms of higher costs and increased management inputs. It is not a planter’s preference to plant oil palm on peat.”

Tan Sri Datuk Dr. Yusof Basiron, Chief Executive Officer, Malaysian Palm Oil Council (MPOC)

Not all peat are created equal

Peat swamp forests are waterlogged forests growing on layers of poorly decomposed leaves and plant materials. The formation and preservation of peat is influenced by several factors: good moisture balance that is, where precipitation is not exceeded by evaporation, high relative humidity, topographical and geological conditions that favour water retention and low substrate pH and nutrient availability. Most peat swamp forests are found in the boreal and temperate zones while tropical peat swamp forests are found mostly in south-east and central-east Asia, the Caribbean and Central America, South America and southern Africa.

Tropical peat swamp forests are grown over with rainforest vegetation and are clearly important ecosystems valued for the services they provide to communities as a source of unique forestry and fisheries products as well as the role they play in flood mitigation, maintaining land stability, regulating water supply, recharging groundwater and as a carbon store. While the forests have been valued by indigenous communities for a long time, the knowledge of its range of ecosystem services was only known in the last decade. The lack of understanding of tropical peatlands adds to the difficulty of making accurate assessments of these areas.

Tropical peat swamp forests vary substantially in depth, from 50 centimetres (cm) to 20 meters (m), with the latter being formed over tens of thousands of years. The depth of the peat determines its suitability for agriculture, with shallow peat being the most suitable and deep peat, unsuitable.
Sustainability Requirement: Planting on Peat

“Suppliers to verify that palm oil:
4. Protect peatlands”

- Does “Protection” mean No planting on peat OR selective planting allowed e.g. planting on shallow peat?
- Sarawak is a late starter in development
- Sarawak is last state of Malaysia where development is needed to uplift livelihood of people
- Sarawak is still under-developed
- Look at land use (next powerpoint)
Sarawak needs development to uplift livelihood

Year: 2012
Forests = 82.3% of state
Agriculture & other land use = 17.7% of state
Sarawak is last frontier state for development in Malaysia

Source: Ministry of Natural Resources & Environment Malaysia
LULUCF: Sarawak is a net carbon sink*

<table>
<thead>
<tr>
<th>Land use type</th>
<th>CO₂ removal (x1,000 tCO₂)</th>
<th>CO₂ emission (x1,000 tCO₂)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hill forest</td>
<td>-79,390</td>
<td>+17,250 (from logging)</td>
</tr>
<tr>
<td>Mangrove</td>
<td>-2,192</td>
<td>-</td>
</tr>
<tr>
<td>Peat swamp</td>
<td>-11,723</td>
<td>-</td>
</tr>
<tr>
<td>Oil palm</td>
<td>-8,299</td>
<td>-</td>
</tr>
<tr>
<td>Rubber</td>
<td>-4,128</td>
<td>-</td>
</tr>
<tr>
<td>Deforestation</td>
<td></td>
<td>+12,637</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>-105,732</strong></td>
<td><strong>+29,887</strong></td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(Removal-Emission)</strong></td>
<td><strong>-75,845</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Year 2007 Source: Ministry of Natural Resources & Environment Malaysia
## GHG emissions from palm oil production

<table>
<thead>
<tr>
<th>Emission sources</th>
<th>Amount (kg CO₂/tonne biodiesel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Production of fertilizers used</td>
<td>185 (11.5%)</td>
</tr>
<tr>
<td>2. Nitrous oxide emitted</td>
<td>130 (8.1%)</td>
</tr>
<tr>
<td>3. Use of pesticides</td>
<td>34 (2.1%)</td>
</tr>
<tr>
<td>4. Transportation &amp; machinery use</td>
<td>89 (5.6%)</td>
</tr>
<tr>
<td>5. Milling &amp; refining of palm oil</td>
<td>19 (1.2%)</td>
</tr>
<tr>
<td>6. EFB</td>
<td>87 (5.4%)</td>
</tr>
<tr>
<td>7. Effluent ponds</td>
<td>824 (51.5%)</td>
</tr>
<tr>
<td>8. Transportation to mills, refineries</td>
<td>36 (2.3%)</td>
</tr>
<tr>
<td>9. Biodiesel refining</td>
<td>197 (12.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,601 (100%)</strong></td>
</tr>
<tr>
<td>10. Production &amp; use of fossil fuel</td>
<td>4,228</td>
</tr>
<tr>
<td>11. Palm biodiesel savings</td>
<td>2,627</td>
</tr>
<tr>
<td>12. GHG emission savings relative to fossil diesel</td>
<td>62%</td>
</tr>
</tbody>
</table>

Source: van Zutphen (2007)

Most GHG emissions is at palm oil mills. Lowering it will improve palm oil sustainability.
Malaysian Government/Malaysian palm oil industry’s effort to improve sustainability

- National Key Economic Area (NKEA)
- Oil Palm Entry Point Projects (EPP)
- EPP 5 (Develop biogas facilities)
  - Build biogas facilities for all mills by 2020
  - 200 mills to supply electricity to national grid by 2020
- Biogas capture installation progress as on March 2014
  - 63 mills completed
  - 14 under construction
  - 150 under planning
- Almost ½ total number of mills are capturing or on way to capture methane
5. Conclusions

- Malaysia palm oil industry supports market demands for sustainability
- Malaysia is 2nd most dominant RSPO certified palm oil supplier to world
- Malaysian palm oil is able to meet the 11 sustainability requirements of Unilever’s Agriculture Sourcing Guidelines which is generic for all agricultural raw material sourcing
- Malaysian palm oil is also able to meet the sustainability requirements of Nestle’s Responsible Sourcing Guidelines with respect to
  - Good Agricultural Practices, Social Requirements and Complying to Laws of Country
- Some Malaysian palm oil may have difficulty to meet Nestle’s environmental sustainability requirements to source palm oil from
  - “Areas that do not come from areas cleared of natural forest after November 2005”
  - “Protect peatlands”
5. Conclusions

- Sustainability for developing countries must be 3P+1D
- For development, some under-developed Malaysian states e.g. Sarawak may need to utilize some of the forest areas and peat (as this is the predominant arable land in the state)
- Development on peat is not a choice of planters but may be necessary for the state’s development and uplifting of livelihood
- “Uplifting of livelihood” is an important aspect of Sustainability which has global consensus (Bruntland)
- Sourcing for agricultural raw materials (palm oil included) must look at overall net sustainability status for the country
- In this respect, Malaysia is one of the few countries in the world that is a carbon sink
- Meaning it’s overall development (including oil palm cultivation) is sustainably done
THANK YOU
Visit my blog:
http://www.ceopalmoil.com

CEO's blog presents an informed, balanced and experienced perspective on the Malaysian palm oil industry. Here, we get the facts right with hope that you will get the real insight of the Malaysian palm oil industry.

Take the Bull by the Horns

by ADMIN on Apr 30, 2011 · 1 Comment

The battle continues and it will not stop just yet. Since the 1980s, Malaysia has fought many environmental and trade campaigns against its commodities, notably timber and palm oil. To put it simply, the developed nations want us to preserve our tropical forests, which are considered an important carbon sink...