Development Opportunity in Sustainable Agriculture

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## Indonesia’s Agriculture Macro Indicators

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<tr>
<th>Description</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total GDP ($US billion)</strong></td>
<td>$709.50</td>
<td>$845.68</td>
<td>$878.20</td>
<td>$868.3</td>
<td>$870.27</td>
<td>$895.68</td>
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<tr>
<td><strong>GDP per capita</strong> (source: IMF)</td>
<td>$2,986</td>
<td>$3,511</td>
<td>$3,592</td>
<td>$3,817</td>
<td>$4,295</td>
<td>$4,700</td>
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<tr>
<td><strong>Contribution Agriculture to national GDP</strong></td>
<td>15.31%</td>
<td>14.72%</td>
<td>15.14%</td>
<td>15.00%</td>
<td>15.21%</td>
<td>15.19%</td>
</tr>
<tr>
<td><strong>Trade balance (USD billion)</strong></td>
<td>22,115</td>
<td>26,061</td>
<td>-1,669</td>
<td>-4,077</td>
<td>-2,073</td>
<td>1,481 Jan-Feb 2015</td>
</tr>
<tr>
<td><strong>Palm Oil in Export Revenues (billions)</strong></td>
<td>$15.4 billion</td>
<td>$19.76 bil</td>
<td>$19.56 bil</td>
<td>$18.43 bil</td>
<td>$21.7 bil</td>
<td>$2.99 bil Jan-Feb 2015</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>221,567,000</td>
<td>237,424,363</td>
<td>246,864,191</td>
<td>250,542,467</td>
<td>252,800,000</td>
<td>255,461,700</td>
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<tr>
<td><strong>Workforce</strong></td>
<td>116,544,943</td>
<td>117,402,985</td>
<td>118,176,291</td>
<td>105,000,000</td>
<td>125,300,000</td>
<td>126,803,600</td>
</tr>
<tr>
<td><strong>Agricultural sector labour (million)</strong></td>
<td>41.49</td>
<td>39.33</td>
<td>38.88</td>
<td>42.00 (40%)</td>
<td>40.80 (32.6%)</td>
<td>38.97 (30.7%)</td>
</tr>
<tr>
<td><strong>Palm Oil workforce (million)</strong></td>
<td>3.2</td>
<td>3.6</td>
<td>4.1</td>
<td>4.5 mil (10%)</td>
<td>4.8 mil (11.76%)</td>
<td>5.3 (13.6%)</td>
</tr>
</tbody>
</table>

Source: Ministry of Trade and BKPM, Ministry of Agriculture, BPS, IMF, ADB (Mar 2015)
Land – a Shrinking Resources

- 1960: 2.4 Persons per 0.22 ha/person
- 2012: 4.5 Persons per 0.16 ha/person

By 2050:
- 6.1 – 6.4 Persons per 0.16 ha/person!

Each piece of land will have to deliver food and energy security.
Facts!

SOYBEAN
0.45 MT Oil/Ha
Need
445 Million Ha of Land

RAPESEED
0.69 MT Oil/Ha
Need
290 Million Ha of Land

OIL PALM
5 MT Oil/Ha
ONLY Need
40 Million Ha of Land

Year 2050
Population 9.6 Billion

EXTRA Production
200.25 Million Tons Vegetable Oil
Palm oil is globally popular and competitive because it is:

- **Cheap**... compared with other vegetable oils and alternative carbon-based fuels
- **High yielding**... at least five times higher than other oil crops (and *can* therefore be ‘green’)
- **Versatile**... with oils and fats that are odourless and tasteless, liquid or solid at room temperature and used as a cooking oil, and in processed foods, biodiesel, soap, candle and cosmetics...
Statistics on Global Vegetable Oils

Global Area under Cultivation (256,770,000 Million Hectares)

- Soyabean: 44%
- Palm: 6%
- Sunflower: 10%
- Canola: 14%
- Others: 26%

Global Vegetable Oil Market Share (156,930,000 Million Tonnes)

- Soyabean oil: 27%
- Palm oil + kernel oil: 40%
- Canola oil: 16%
- Sunflower oil: 9%
- Others: 8%

Source: Oil World Statistic, 2014
Vegetable Oils Yields

Source: Oil World 2014
Why Palm Oil is a Strategic Commodity for Indonesia?
Partnership for Indonesia’s Sustainable Agriculture
PISAgro addresses Indonesia's food security, climate change and poverty challenges

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<th>Target</th>
<th>Approach</th>
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<tbody>
<tr>
<td>% Yield increase</td>
<td>▪ Improve yield through pilot projects</td>
<td>▪ Reduce emissions level through:</td>
<td>▪ Reduce poverty levels by targeting local communities</td>
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<td>— Enhance farmers’ knowledge in best practice management</td>
<td>— Lower import, reduce transportation</td>
<td>— Introduce new, more resilient crop types</td>
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<td>— Leverage private, public, and international experts</td>
<td>— Improve land use to reduce deforestation and peatland degradation</td>
<td>— Standardize contracting to ensure offtake and prices</td>
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<td>— Reduce harvest failures</td>
<td>— Sustainable farming practices</td>
<td>— Transfer of knowledge and technology</td>
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<td>— Provide access to technology</td>
<td>— Improve use of renewable energy</td>
<td>— Establish innovative financing schemes</td>
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<tr>
<td>% CO₂ emission reduction</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>% Poverty reduction</td>
<td></td>
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### Principles of PISAgro

<table>
<thead>
<tr>
<th>High Aspiration</th>
<th>Modular</th>
<th>Inclusive</th>
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<tbody>
<tr>
<td><em>Having aspirations to launch high-growth ventures</em></td>
<td><em>Employing or involving modules as the basis of replication to scale-up the project</em></td>
<td><em>Being open to any party and institution to be involved in the supply chain</em></td>
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<td></td>
<td><em>Having the ability to be replicated on a nation wide scale</em></td>
<td><em>Engaging farmers into the chain in a way that benefits them and creates sustainable livelihoods.</em></td>
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</table>
Benefit of Palm Oil Replanting Program
Palm Oil Plantation – Planted Areas

Indonesia Land Area
189 Million Ha

Total Oil Palm Planted Areas
10.5 Million Ha

State-owned enterprises
(840.000 Ha)
8 %

Smallholders Farmers
(4.52 million Ha)
43 %

Private Company
(5.14 million Ha)
49 %

Independent Farmers
2.5 Million Ha

Plasma Farmers
2.0 Million Ha

Yield CPO
3-4 Ton/Ha/Year

Yield CPO
2-3 Ton/Ha/Year

Yield CPO
5-6 Ton/Ha/Year

Yield CPO
5-6 Ton/Ha/Year

Total Oil Palm Planted Areas
10.5 Million Ha
Innovative Financing Program
Oil Palm Replanting for Independent Farmers

Before Program

- No Land Certificate
- COMMERCIAL INTEREST
- POOR / NON CERTIFIED
- LOW : +/-2 ton CPO/ha/year
- POOR AGRICULTURE PRACTICE

After Program

- LAND
- FUND
- SEED
- YIELD
- PRACTICE

- Certificate BPN
- Fund Provided
- SUBSIDIES to 8.75% pa
- CERTIFIED and LEGAL
- HIGH : 5-6 Ton CPO/ha/Year
- GOOD AGRICULTURE PRACTICE (GAP)

PLANT REPLACEMENT

- 4 Years during Replanting

1 Mio Farmers
2 to 5 Ton/ha
Save New Land opening of 1 million Ha Forest
Oil Palm Replanting (Innovative Financing on Oil Palm)

Replanting 2 million Ha

1 million Independent Farmers

Yield Increase

2 – 3 Ton

5-6 million Ton/Year

Income Increase

5-6 million Ton x USD 600 = USD 3.0 – 3.6 billion/Year

CPO Price

Save New Land opening & avoid forest encroachment of 1 million Ha Forest

Note:
1 million Ha ~ 5-6 million tons of CPO
2 Ha ~ 0.5 Farmer
CONCLUSIÓN
Palm Oil is a **Winning Product** of Indonesia

It is sustainable and renewable alternative to fossil fuels

Encourage to utilize it as biofuel for Indonesia
Thanks a bunch.