Thai Palm Oil Industry

and

Roadmap for Implementation of Strategic Agricultural Crops

Palmax Thailand 2015

20 August 2015

Office of Agricultural Economics

Outlines

Oil Palm Situation and Trend
- World
- Thailand

Thailand Palm Oil Industrial Structure
- Problems and Constraints

Oil Palm and Palm Oil Industries Development Strategy
2015-2026
Oil Palm Situation and Trend

World Oil Palm Situation and Trend

Palm oil world: Production 2005-2014 (M. ton)

Growth Rate 7.02%
- Production 2015: 61.45 M. ton
- Indonesia: 53.70%
- Malaysia: 32.22%
- Thailand: 3.42%

Palm oil world: Domestic consumption 2005-2014 (M. ton)

Growth Rate 6.83%
- Domestic con. 2015: 60.82 M. ton
- Indonesia: 16.47%
- India: 14.96%
- EU: 10.93%
- China: 9.01%
World Oil Palm Situation and Trend

Palm oil world: Export 2005-2014 (M. ton)

- Growth Rate: 7.00%
- Export 2015: 44.20 M. ton
- Indonesia: 52.04%
- Malaysia: 38.91%
- Thailand: 0.18%

Palm oil world: Import 2005-2014 (M. ton)

- Growth Rate: 6.83%
- Import 2015: 43.14 M. ton
- India: 20.86%
- EU: 15.76%
- China: 12.59%
- Pakistan: 6.26%

Palm oil world: Ending Stock 2005-2014 (M. ton)

- Growth Rate: 10.57%
- Ending Stock 2015: 7.35 M. ton
- Malaysia: 28.98%
- Indonesia: 23.81%
- India: 8.30%
- Other: 38.91%
**Expansion of Production and Demand**

<table>
<thead>
<tr>
<th>Items/Year</th>
<th>1983 (30 years ago)</th>
<th>1993 (20 years ago)</th>
<th>2003 (10 years ago)</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planting area (M. ha)</td>
<td>0.06</td>
<td>0.16</td>
<td>0.30</td>
<td>0.721</td>
</tr>
<tr>
<td>Palm Oil Production (M. ton CPO)</td>
<td>0.05</td>
<td>0.31</td>
<td>0.74</td>
<td>2.135</td>
</tr>
<tr>
<td>Domestic Consumption (M. ton CPO)</td>
<td>0.05</td>
<td>0.29</td>
<td>0.68</td>
<td>1.730</td>
</tr>
<tr>
<td>Export (M. ton CPO)</td>
<td>-</td>
<td>0.001</td>
<td>0.30</td>
<td>0.565</td>
</tr>
</tbody>
</table>

**Production Areas and Yield 2010-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>Planting Area (M. ha)</th>
<th>Harvested Area (M. ha)</th>
<th>Production FFB. (M. ton)</th>
<th>Yield (ton/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0.62</td>
<td>0.54</td>
<td>8.23</td>
<td>15.19</td>
</tr>
<tr>
<td>2011</td>
<td>0.66</td>
<td>0.57</td>
<td>10.76</td>
<td>18.89</td>
</tr>
<tr>
<td>2012</td>
<td>0.71</td>
<td>0.59</td>
<td>11.31</td>
<td>19.10</td>
</tr>
<tr>
<td>2013</td>
<td>0.72</td>
<td>0.60</td>
<td>12.37</td>
<td>20.51</td>
</tr>
<tr>
<td>2014</td>
<td>0.73</td>
<td>0.66</td>
<td>12.50</td>
<td>18.83</td>
</tr>
<tr>
<td>GR.</td>
<td>4.41</td>
<td>4.82</td>
<td>10.24</td>
<td>5.25</td>
</tr>
<tr>
<td>2015 (F)</td>
<td>0.71</td>
<td>0.70</td>
<td>12.21</td>
<td>17.34</td>
</tr>
</tbody>
</table>
Harvested Area in Thailand 2015 (0.70 M. ha)

- **Southern Area** 87%
- **Central Area** 10%
- **Northeastern Area** 2%
- **Northern Area** 1%

<table>
<thead>
<tr>
<th>Province</th>
<th>Harvested Area (M. ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.704</td>
</tr>
<tr>
<td>1. Suratthani</td>
<td>0.162</td>
</tr>
<tr>
<td>2. Krabi</td>
<td>0.156</td>
</tr>
<tr>
<td>3. Chumphon</td>
<td>0.133</td>
</tr>
<tr>
<td>4. Nakhonsithummarat</td>
<td>0.052</td>
</tr>
<tr>
<td>5. Phangnga</td>
<td>0.027</td>
</tr>
<tr>
<td>6. Other</td>
<td>0.174</td>
</tr>
</tbody>
</table>

Supply Chain of Oil Palm in Thailand 2014

- Farmer 0.19 M. Household
- Oil Palm Plantation 0.73 M. ha and 12.50 M. ton FFB.
- Oil Extraction 145 mills capacity 22.81 M. ton FFB./year
- Oil Refinery 18 mills capacity 2.38 M. ton CPO./year
- Biodiesel 10 mills capacity 4.34 M. ton CPO/day
Industrial Structure

**Farmer**
- 0.19 M. HH.
- (> 85% Smallholder)

**FFB**

**Oil Extraction**
- 145 mills
- 22.81 M. ton FFB./Y.

**CPO**

**Refiner**
- 18 Mills
- 2.38 M. Ton /Y

**RBDPO**
- Food ind., Instant Noodle, Ice cream, Creamer

**Export**

**Olein**
- Export
- Domestic

**Stearin**
- Chemical, Soap, Feed
- Creamer, Margarine, Food

**PFAD**
- Other inds.

**Company Logo**

**Palm Oil Utilization of Thailand 2006-2014**

M. ton CPO.

**Consumption**
- GR. = 1.48%

**Biodiesel**
- GR. = 35.07%

**Export**
- GR. = 6.95%

**Import**

**Total**

GR. = ...%
Palm Oil Utilization of Thailand 2015

CPO
2.25 M. ton

Domestic Use (42 %)
Biodiesel (38 %)
Export (3 %)
Stock (18 %)

Oil Palm and Palm Oil Prices 2010-2015

Unit: Baht/ Kg

farm gate price_Thai
CPO wholesale price_Thai
CPO wholesale price_Malaysia

ที่มา: BURSA MALAYSIA
Ministry of Agriculture and Cooperatives has issued the standards for oil palm production:

1. Standard of Fresh Fruit Bunch (2009)

AFTA

- Free trade Zero Tariff (from 1 January 2010)

WTO

- Tariff Quota
  - In - quota :  tariff 20%  Quantity 4,860 tons
  - Out - quota : tariff 143%
Oil Palm and Palm Oil Industries Development Strategy 2015-2026

Problems and Constraints Analysis

1. low production efficiency

1) Yield is low, because of
   - Inappropriate of farm management and inadequate water resources
   - Increase planted areas without supporting system and quality palm seedling

2) Oil Extraction Rate (OER) is low, because of
   - Some farmers harvest unripe FFB
   - Inappropriate measures for controlling FFB collectors
   - Capacity of Mills is over supply as a result of scramble for input (FFB). In addition, extraction mills are continually set up.
   - Extraction mills grade B still have problem in the quality of palm oil and high cost of production. Moreover, lack of enforcement of FFB standard.
Problems and Constraints Analysis

2. High Cost of Production, because of

- The majority is small scale farmers, as a result of high unit cost of production. In 2015, it is found that cost of fertilizer and chemical used is 37 percent and labor cost is 34 percent.
- Most farmers are lack of knowledge on using fertilizer by age and growth of oil palm, and on irrigation.
- High transportation cost due to mills are far from planted areas.
- Planted areas is unsuitable as a result of increasing investment.

3. Marketing

1) Price:
   - Collectors do not buy FFB by quality.
   - Ceiling price of vegetable oil for consumption is controlled, including the ceiling price of input of Biodiesel production.

2) Downstream Industries
   - Processing for value added products is minimal.
   - Increasing use of palm oil for energy purposes is limited.

3) Administration and Management
   - Lack of accurate and timely information.
   - Law enforcement is not compulsory, eg. Lack of controlling on repeating frying oil.
**Vision**

Oil Palm Industry is sustainable for food security, clean energy and environmental friendly

**Mission**

Increase production to meet domestic consumption demand, alternative energy and export

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**Production**

**Target:** Increase production

- **by** Increase Productivity → Yield 22 ton/ha.
- **Plans:** Replant → OER 20.0%

- **New plantation on unused land and suitable lands**

- **Plantation 2015**
  - 0.71 M. ha
  - OER 2015 18.00%
  - Yield 2015 20 ton/ha

- **Plantation 2026**
  - 1.19 M. ha
  - OER 2026 20.00%
  - Yield 2026 22 ton/ha

- **Replant**
  - 4,800 ha/Y.
**Marketing**

**Consumption**
- Growth 3.00% per year

**Biofuel**
- Mandatory B7 and up to B12 (B7 + B20) (by 2026)

**Export**
- Mandatory 0.3 M. ton CPO /Y.

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**Oil Palm and Palm Oil Industries Development Strategy 2015-2026**

**4 Phases of Roadmap**

1. **Immediately ➔ less than 1 year**
   - Determine suitable areas for expanding oil palm plantation
   - Enforcing standards related to oil palm
   - Increasing channel of palm oil consumption
   - Designate mills to buy FFB as required

2. **Short term ➔ 1 – 3 years**
   - Increase Oil Palm Planted Areas
   - Increase Production Efficiency
   - Adoption ASPO Standards
   - Research and Development
4 Phases of Roadmap (Continue)

3. Medium term  ➔  3 – 5 years

eg. - Management for FFB Quantity to Meet Capacity of the Mills
    - Support Oil Palm and Palm Oil Development Organizations and Funds
    - Develop Infrastructure and Logistics for supporting Oil Palm Industries
    - Research and Development

4. Long term  ➔  5 – 12 years

eg. - Coordinate and Cooperate with ASEAN Countries in order to Expand Market
    - Support the Establishment of Brand with ASPO Standards
    - Research and Development

Target: Increase competitiveness of Oil Palm Industry

1. Increasing Production Efficiency of Farmers
   1.1 Increase Yield
   1.2 Increase Oil Extraction Rate (OER)
   1.3 Determine Suitable Areas (Zoning)

2. Increasing Production Efficiency of Mills (OER Capacity)

3. Price Stability
   3.1 Trading Oil Palm by using OER and Quality
   3.2 Pricing is driven by Market Mechanism
   3.3 Appropriate Administration and Management by Thailand Oil Palm Board

3.4 Increasing Channel of Palm Oil Consumption and Processing of Value added Products
1. Increasing Production Efficiency and Decreasing Production Cost of Farmers

1.1 Increasing Yield
- Breeding Development and Nursery Control
- Rehabilitation / Replanting
- Transferring Technology and Appropriate Use of Fertilizer
- Enforcing standards and Regulatory Related to Oil Palm
- Farmers Grouping for Increasing Efficiency

Average Yield Increase to 3.5 Ton/Rai

1.2 Increasing OER
- Optimal Farm Management / Harvest Ripe FFB
- Quality Control for Collection FFB and Implement Standard of Collectors
- Infrastructure and Logistics Management of the Cooperatives

OER Increase 1 – 3 %

1.3 The Diagram Indicates Situation Areas for Oil Palm Plantation
(Ministry of Agriculture and Cooperatives)
### 2. Increasing Production Efficiency of Mills

#### Chart of Mills in Thailand

#### Oil Palm Planting Areas, Surat Thani Province

<table>
<thead>
<tr>
<th>Region</th>
<th>Total</th>
<th>Opaque</th>
<th>Clear</th>
<th>Total</th>
<th>Opaque</th>
<th>Clear</th>
<th>Total</th>
<th>Opaque</th>
<th>Clear</th>
<th>Total</th>
<th>Opaque</th>
<th>Clear</th>
<th>Total</th>
<th>Opaque</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td>South</td>
<td>68</td>
<td>52</td>
<td>120</td>
<td>3,245</td>
<td>194</td>
<td>3,438</td>
<td>21.46</td>
<td>11.43</td>
<td>91.44</td>
<td>53.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>13</td>
<td>10</td>
<td>22</td>
<td>375</td>
<td>30</td>
<td>378</td>
<td>1.20</td>
<td>0.96</td>
<td>7.68</td>
<td>80.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>23</td>
<td>1</td>
<td>24</td>
<td>0.15</td>
<td>0.11</td>
<td>0.88</td>
<td>71.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>83</td>
<td>62</td>
<td>145</td>
<td>3,445</td>
<td>209</td>
<td>3,655</td>
<td>22.81</td>
<td>12.50</td>
<td>100.00</td>
<td>54.81</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Oil Palm Planting

S1 = Highly suitable
S2 = Moderately suitable
N = Not suitable

### 3. Price Stability Guidelines

3.1 Trading Oil Palm by using OER and Quality

3.2 Pricing is driven by Market Mechanism

3.3 Appropriate Administration and Management by National Oil Palm Committee