The growth and challenges of the oleochemicals industry in South East Asia (SEA)

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PRESENTATION OVERVIEW

1. Development of Oleochemicals Industry
2. Current Oleochemicals producers in SEA
   - Malaysia
   - Indonesia
   - Philippines
   - Thailand
3. Expansion in India & China
4. Challenges' faced by SEA's Oleochemicals Industry

Development of Oleochemicals Industry

- 18th century:
  - Initial used for consumer and candle products
- 70s:
  - 1st petroleum crisis
  - oleochemicals started to replace petrochemical
- 80s:
  - Global population expand
  - 1st company in the world to produce Oleochemicals using PO/PKO- ACIDCHEM INTERNATIONAL, Malaysia.
  - Increasing demand on vegetable based material
  - ‘Green Drive’

Development of Oleochemicals Industry-Cont’

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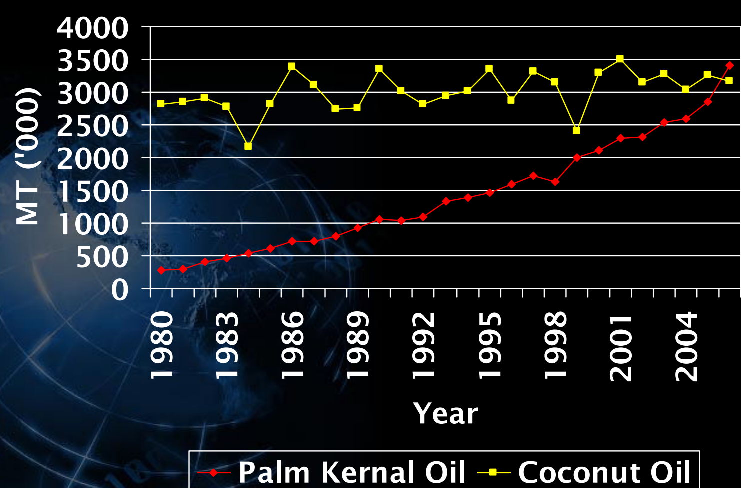
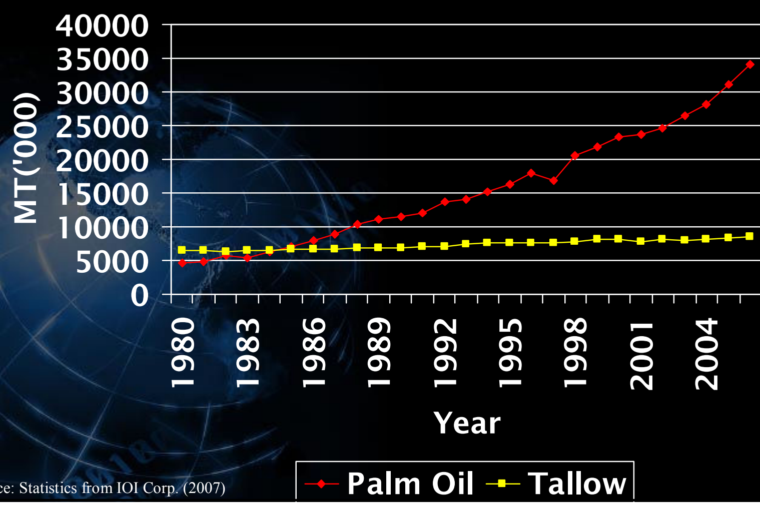
  - Palm oil (PO) & Palm Kernal Oil (PKO) has been identified as a sustainable supply of feedstock to the oleochemicals.

World Production of PKO & CNO (1980-2006)



Reference: Statistics from IOI Corp. (2007)

World Production of PO & Tallow (1980-2006)



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Development of Oleochemicals Industry-Cont'

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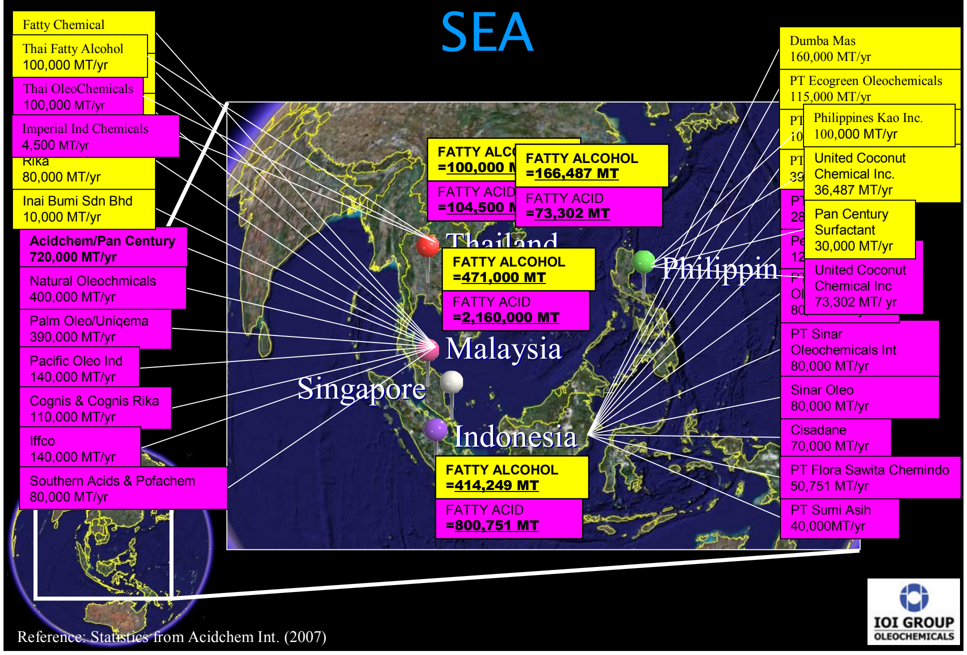
  - PO & PKO annual growth up to 9% annually.
- 21st Century:
  - SEA - the largest OC producing region
  - >80% PO & PKO produced from Malaysia, Indonesia & Philippines

Fatty Acid & Alcohol Producers in SEA



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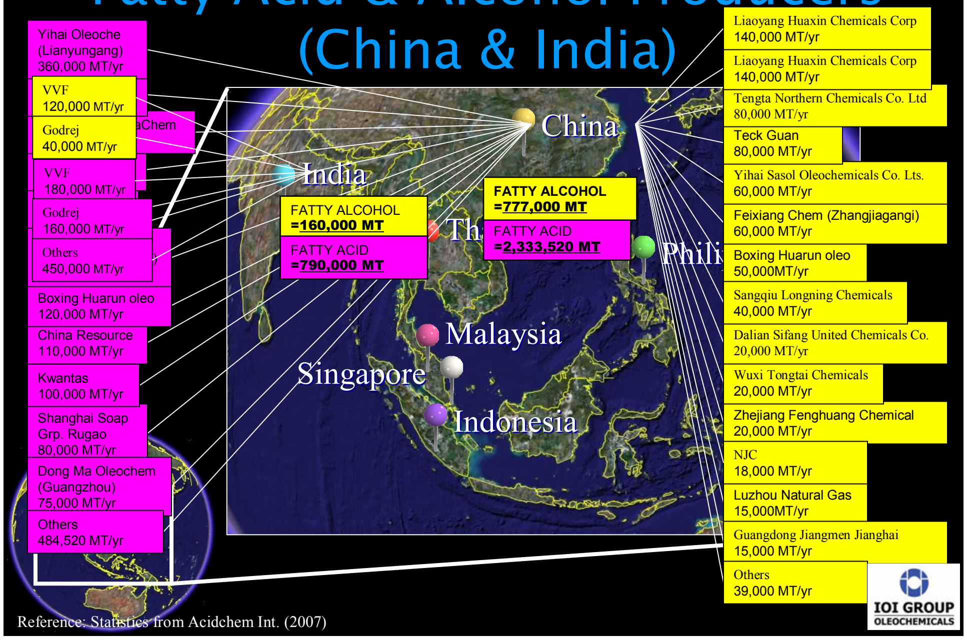
- 21st Century:
  - Economic growth in Asia eg. China & India will push for further development of Oleochemicals industry

Fatty Acid & Alcohol Producers (China & India)



Outlook on SEA's Oleochemicals Industry

- ¤ Strong expansion of Palm Oil production
- ¤ Plantation Companies to Invest Profits in Oleochemicals

Challenges faced by SEA's Oleochemical Industry

¤ Development of biodiesel industry

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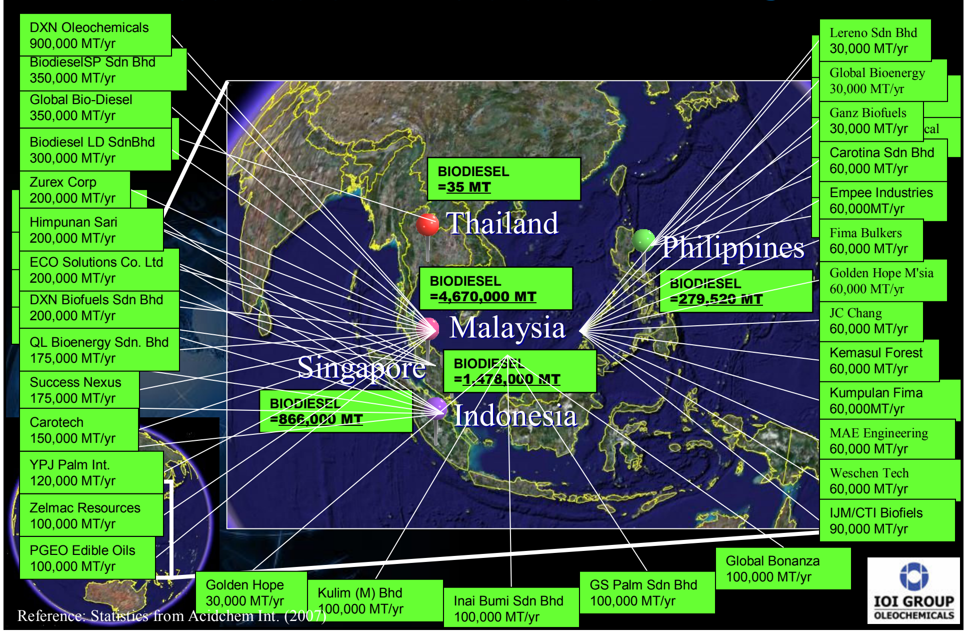
Biodiesel Producers in SEA



Reference: Statistics from Acidchem Int. (2007)

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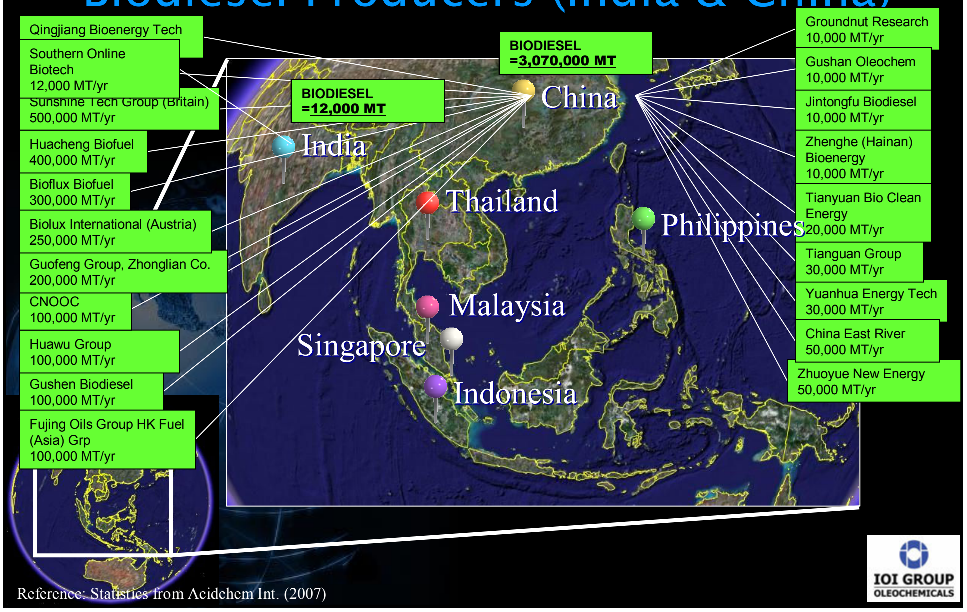
Biodiesel Producers (India & China)



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Challenges faced by SEA's Oleochemical Industry

- Development of biodiesel industry
- Over expansion resulting in over capacity

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Challenges faced by SEA's Oleochemical Industry

- Development of biodiesel industry
- Over expansion resulting in over capacity
- Oversupplied of glycerine/glycerol in the market

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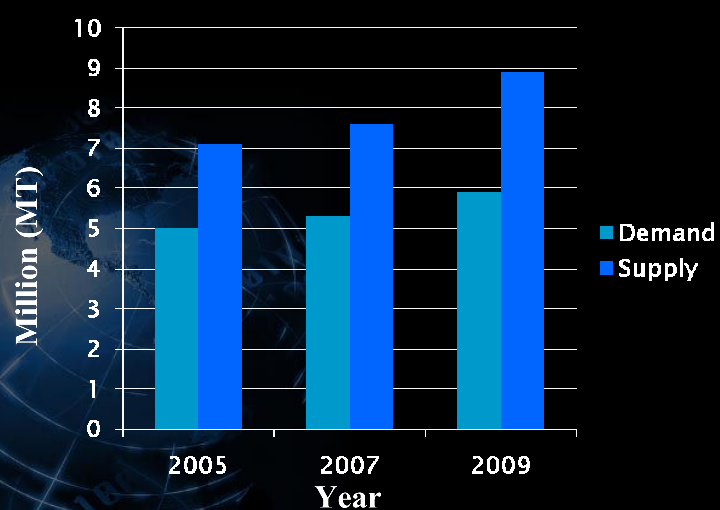
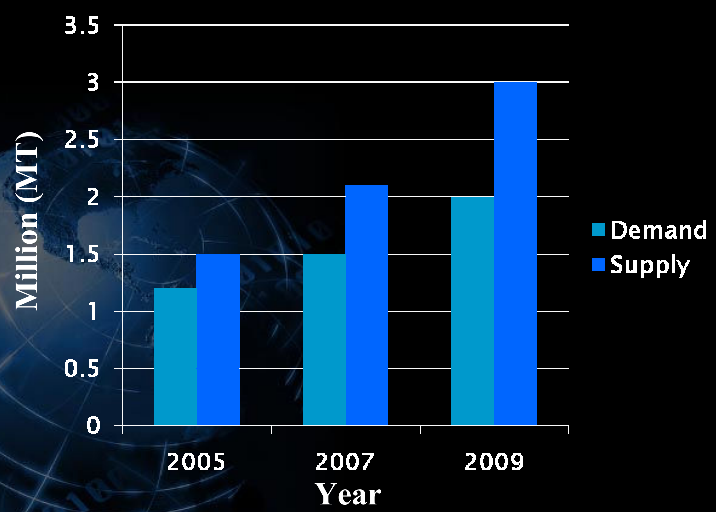
World Supply & Demand of Fatty Acid (2005-2009 est.)



World Supply & Demand of Fatty Alcohol (2005-2009 est.)



Oleochemicals Production in SEA

MT SEA	Biodiesel	Fatty Acid	Glycerine	Alcohol
Malaysia	4,145,000	2,160,000	264,280	471,000
Indonesia	1,478,000	800,751	99,140	414,249
Philippines	279,520	73,302	31,018	166,487
Thailand	35	104,500	650	100,000
Singapore	866,000	-	-	-
Total	6,768,555	3,138,553	395,088	1,151,736
India	12,000	790,000	-	160,000
China	3,070,000	2,333,520	240,000	777,000
Total	9,850,555	6,262,073	635,088	2,088,736

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Challenges faced by SEA's Oleochemical Industry-Cont'

- Higher production cost
- Shortage of cargo space
- Increasing freight rate

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Challenges faced by SEA's Oleochemical Industry-Cont'

- Scarce of Land Resource for future plantation development

Challenges faced by SEA's Oleochemical Industry-Cont'

- Scarce of Land Resource for future plantation development
- REACH Legislation

THANK YOU.

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