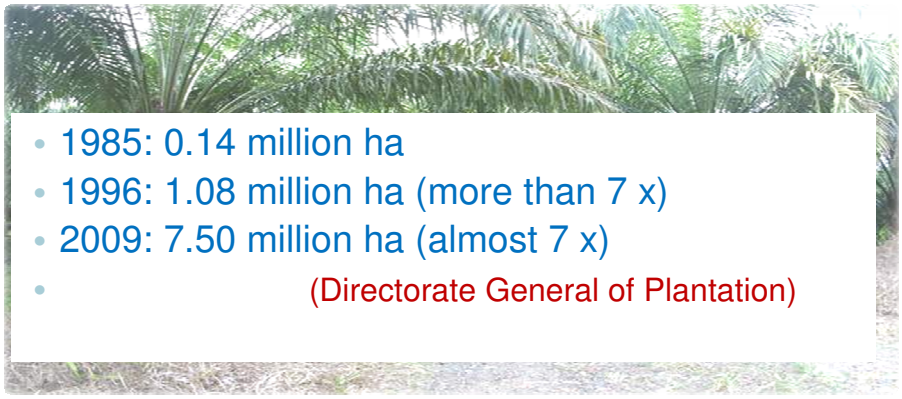
Diana Chalil

OIL PALM, LAND CONVERSION & FOOD SECURITY

Oil Palm: the Tremendous Growth



- 1985: 0.14 million ha
- 1996: 1.08 million ha (more than 7 x)
- 2009: 7.50 million ha (almost 7 x)
- (Directorate General of Plantation)

Some Considerations

- Land Conversion → Food Insecurity
- Market Power

PADDY PRODUCTION CENTER

- L.Batu : 48,092 ha
- Langkat : 46,613 ha
- D.Serdang: 43,736 ha
- Simalungun: 41,165 ha
- Serdang Bedagai: 40,022 ha

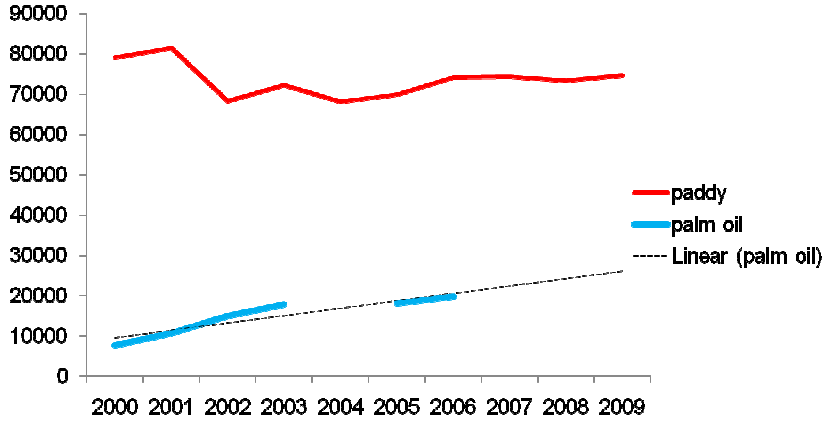
L.Batu Land Area (Asni, 2005)

L.Batu, January 2011

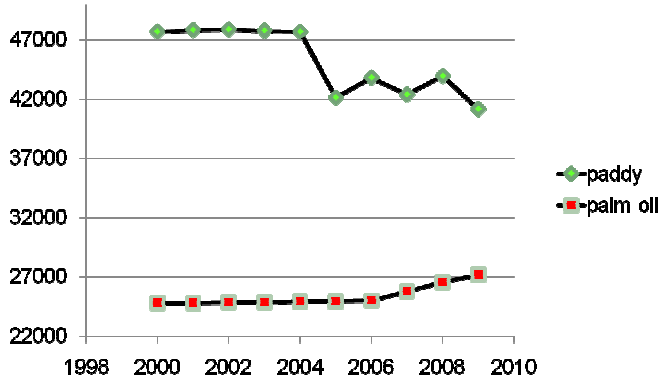
(Medan Bisnis, 17 Jan 2011)

- Head of Agriculture Agency (Kabid Pertanian, Tarman)
- In Kualuh Selatan (Labura) and Kualuh Hilir (Ledong):
  - around 3.000 ha paddy field has been converted into oil palm
  - Remaining paddy field: around 26.000 ha

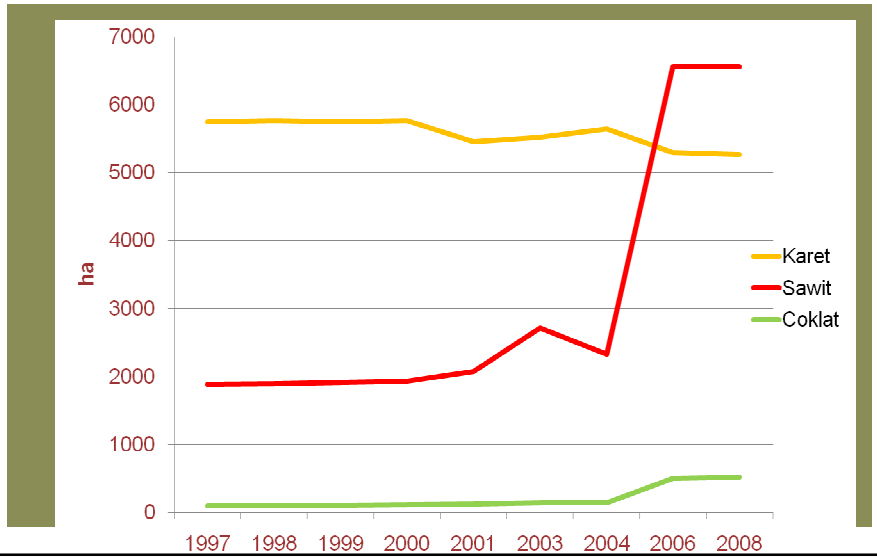
D.Serdang (+Sergai)



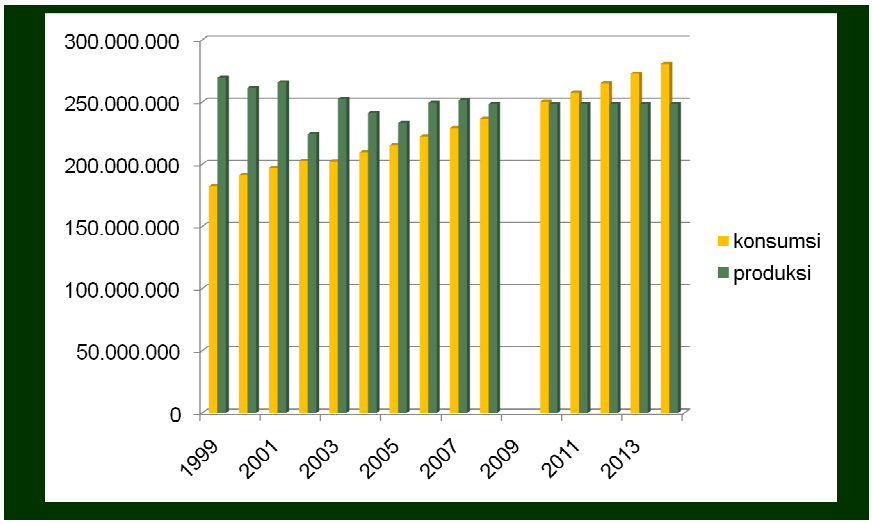
Simalungun



Land Area in Namu Sira-Sira, Langkat



Food Insecurity: D.Serdang



Conversion

Decrease water supply

- It has been cultivated even in the upstream → no detail study that analyzing the impact of such a cultivation to water flow, but farmers feel that

Water requirements

- **Paddy's field**
- **0,74 – 1,2 lt/sec/ha**, or 6,39 – 10,37 mm/day/ha
- (Juliardi and Ruskandar, 2006).

- **Oil Palm**
- **0.9 lt/ sec/ ha** (Harahap dan Darmosarkoro, 1999) or 12-25 lt/ trunk/ day (Unri, 2009; KPA, 2009)
- Growth with:
  - Enough water: 15-25 cm/month
  - Lack of water: 7-13 cm/ month

  (Balai Penelitian Agroklimat dan Hodrologi, 2007)

Water misuse

Warning!

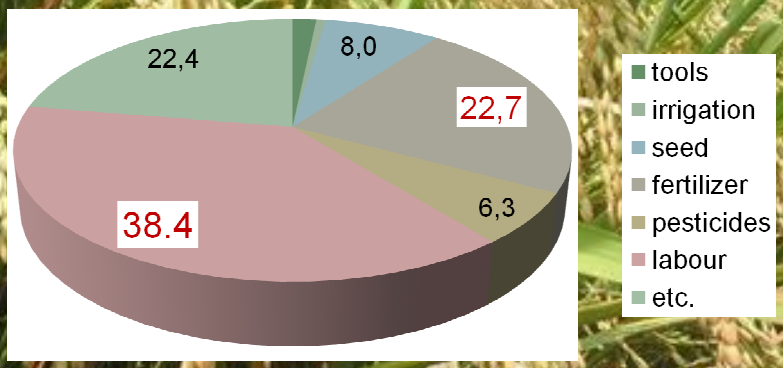
- Water supply in North Sumatera: 96.2 billion m3/ year
- Water needs for 4.3 million ha oil palm: 103 billion m3/ year
- (Wignyosukarto, 2010)

- 2010:
- Irrigation in 197,128.8 ha irrigated paddy's field is highly damaged (Ka. Bappeda Sumut Riadil Akhir)
- 39% irrigation channels in North Sumatera are in poor condition (Kadistan Prov. Sumut M.Roem S.)
- Damaged at
- Primary channel: 65,689 ha (out of 144,185 ha); secondary channel: 103,540 ha (out of 226,690 ha) (Kadis PSDA)

Why they converted the land?

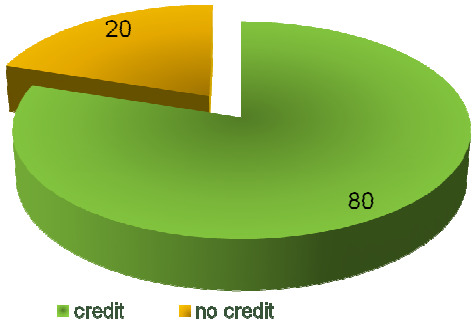
- Pushing Factors (in paddy's farm):
  - Lack of (irrigation) water
  - High price (lack of capital) and scarcity of fertilizer
  - Low paddy's price during harvest
- Pulling Factors (in oilm palm)
  - Only need to be fertilized once in 6 month
  - FFB/ CPO selling price tend to increase

Expenditure for labor & fertilizer for paddy's farm

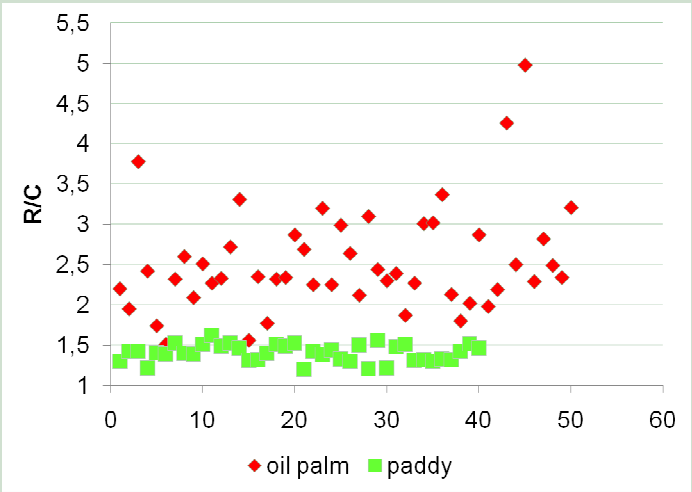


Lack of capital

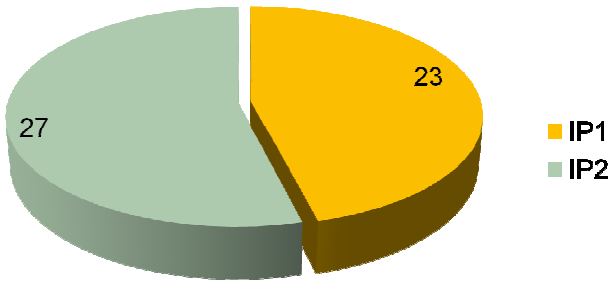
(60 samples of 'independent smallholders')



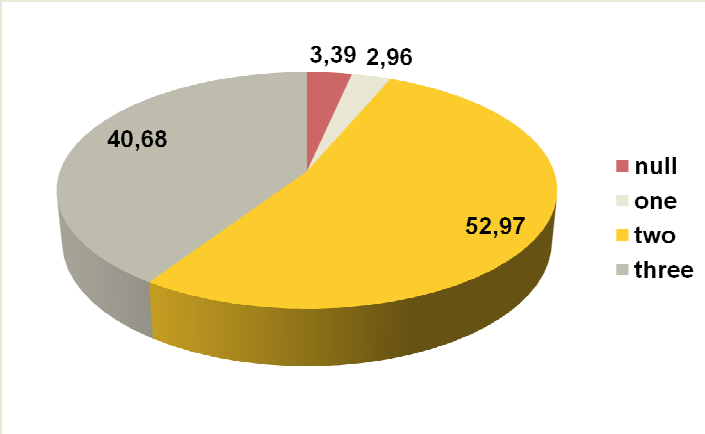
More beneficial?



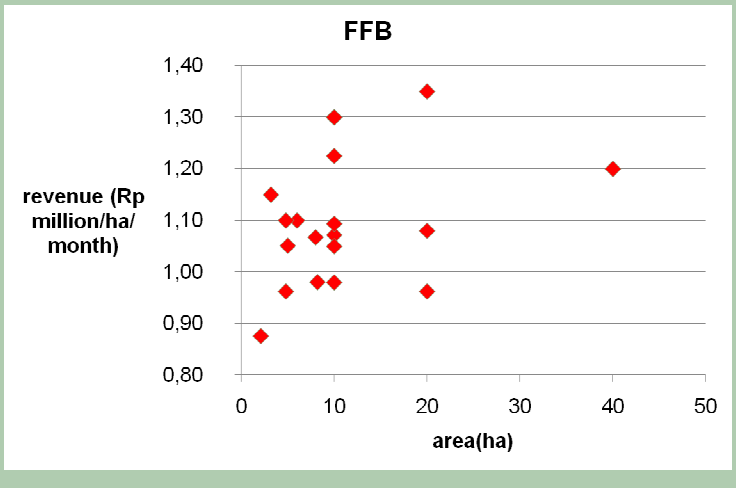
Cultivation Index: L.Batu
(Asni, 2005)



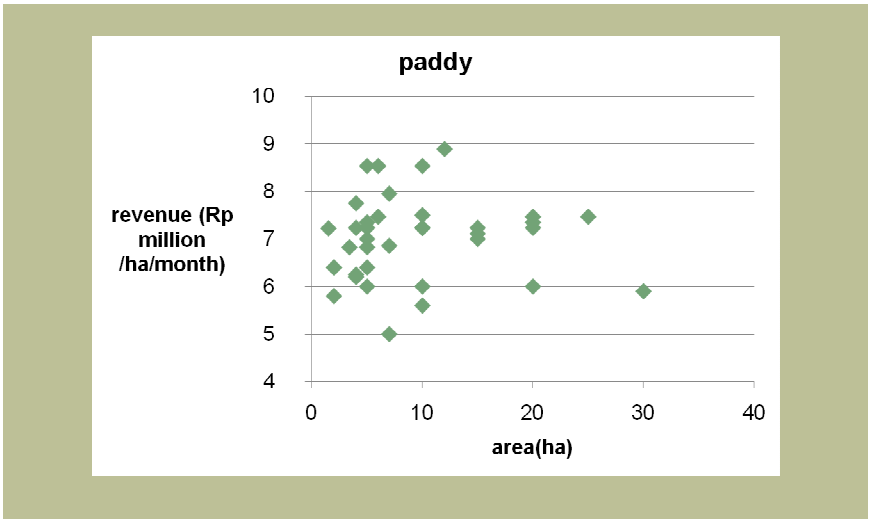
Cultivation Index
(228 farmers in Langkat, 2009)



Langkat (NS), 2009/2010



Potential: Cultivate index 3



Source of Low Cultivation Index: Irrigation condition

Import as an alternative?

- Rice market = residual market (Simatupang et.al, 2006)
- Rice market = non competitive
  - production = hardly subsidised
  - US : 19.2% (IATP 2007 in Sawit, 2008)
- Uncertain price and supply (food insecurity)
  - More risky for inelastic demand commodity such as rice

Market Power

- 1998-2003: Indication of market power in the Indonesian CPO industry stemmed from :
  - Vertical integration (plant-CPO mills-cooking oil)
  - Plantation size
- Now:
  - biofuel: integrasi vertikal and larger plantation size
  - More export oriented → potential non tariff barriers from RSPO (well documented)
  - → investment: 1 billion/ton

Oligopsony?
(Few big firm vs many small scale plantations/ smallholders)

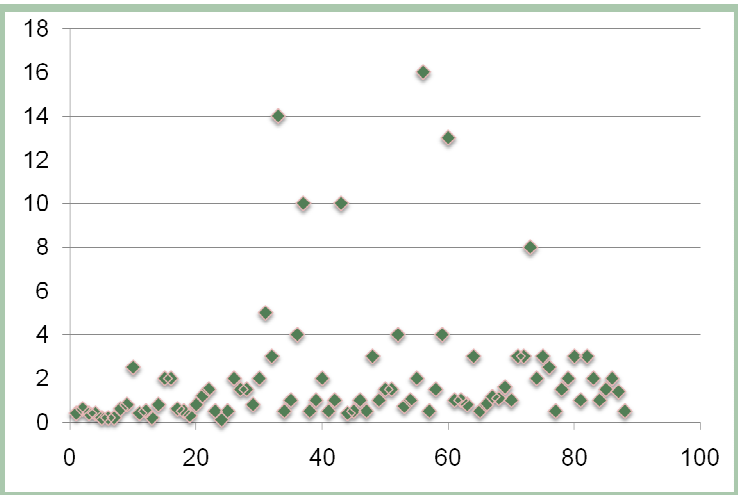
- Firm ETWA needs
  - 14,000 ha of oil palm plantation
  - to establish biodiesel firm with 70,000 ton/ year
  - With US$70 million or Rp700 billion
  - With estimated profit Rp5 billion/ year

  - → investment: 0.36 billion/ton

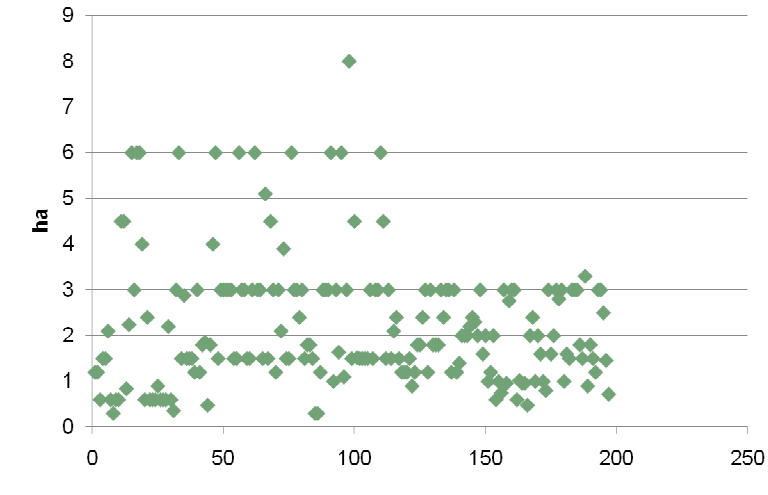
- Department of Agriculture
- 2009
  - Plan to establish 22 plants with 0.7million liter
  - Supported by 200,000 ha oil palm plantation
  - With investment: Rp1.32 trillion

- 2025
  - Plan to establish 45 plants with capacity 100,000 ton/ year (4.7 million liter/year)
  - Supported by 1.34 million ha oil palm plantation
  - With investment: Rp9 trillion

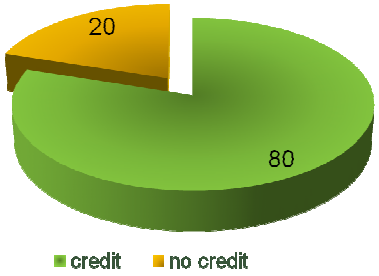
Smallholders' land size:
L.Batu, Sergei, D.Serdang (90 samples), 2009/2010



Langkat (NS)

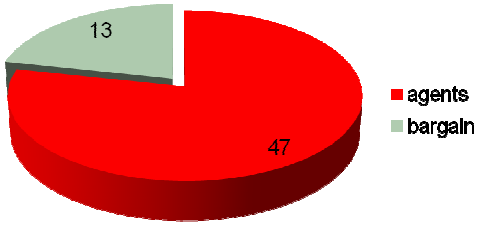


Independent farmers?
(60 samples of 'independent smallholders')



Oligopsony market structure

Lack of capital, less bargaining power



Concluding Comments

- Reject the development of Oil Palm? No
  - Source of income
  - Source of green (and relatively cheap) energy
  - Source of occupations
- But develop with caution
  - Competition in input supply for food crops
  - Market power stems from unequal bargaining position

- Prevention is better than cure
  - (long lasting and costly)
- Terima kasih..