

# **Large-Scale Biofuels Production and Food Sovereignty in Asia**

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# Outline

- **What is biofuels**
- **Hype and Concerns on Biofuels**
- **Asian Agriculture as Backbone of Biofuels industry**
- **Impact on Food Sovereignty**
- **Conclusion**

# What is Biofuel or Agrofuel?

- **What is Biofuel?**

- Biofuels are fuels that are derived from biomass.
- Biofuels are a renewable energy sources that can be replenished on an ongoing basis.
- Biofuels are claims to be biodegradable and, when burned, have fewer emissions than traditional hydrocarbon-based fuels.
- While other alternative energies—like solar, wind, geothermal, hydroelectric, and tidal—offer viable options for electricity generation, around 40 percent of total energy consumption requires liquid fuels like gasoline or diesel fuel.

- **Biofuels is a “loose concept”.**
  - Eric Holt-Giménez and Isabella Kenfield of *Food First* suggest to use term “agrofuels”: Agrofuels are liquid fuels made from fuel crops grown on a large agro-industrial scale.
  - Agrofuels, such as ethanol and biodiesel, are currently produced from plants such as corn, oil palm, soy, sugar cane, sugar beet, rapeseed, canola, jatropha, rice and wheat.
  - Agrofuels are blended with gasoline or diesel, mainly to power the 800 million automobiles that consume over 50% of the world’s energy.
  - While “biofuels,” is the term commonly used for agrofuels, refers to small-scale, non-industrial liquid fuels frequently made in owner operated facilities for local consumption.

# Three Generations of Biofuels

- **First Generation: Biofuels that based on Food crops.**

“First-generation biofuels” are biofuels made from sugar, starch, vegetable oil, or animal fats using conventional technology. The basic feedstocks for the production of first generation biofuels are often seeds or grains such as wheat, which yields starch that is fermented into bioethanol, or sunflower seeds, which are pressed to yield vegetable oil that can be used in biodiesel.

- **Second Generation: Non-Food Crops.**

Second-generation biofuel implementation from non food crops, including *cellulosic biofuels*, the production processes can use a variety of non food crops. These include waste biomass, the stalks of wheat, corn, wood, and special-energy-or-biomass crops (e.g. Miscanthus).

- **Third Generation: Oilgae or Algae fuel.**

Algae are low-input, high-yield feedstocks to produce biofuels. One advantage of many biofuels over most other fuel types is that they are biodegradable, and so relatively harmless to the environment if spilled.

# Hype and Concerns on Biofuels

- **Biofuel to respond the energy crisis and climate.**
  - Oil/Energy Crisis: the needs alternatives energy sources
  - Climate change concerns: anticipating impact on fossil fuels and to meet the Kyoto targets.
- **Supply and Demand on Biofuels**
  - Demand on biofuels was significantly increased after EU, US, and others countries put into effect their blending mandates. Oil price hike since 2003 had influenced the increasing concerns on biofuels.
  - Demand creates supply with private corporations become the major players by hijacking climate issue as the way to dig profit.

# Top 5 European Countries in Biodiesel Production

<b>Countries</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
<b>France</b>	500	502	532	775	780
<b>Germany</b>	1,025	1,088	1,903	2,681	4,361
<b>Italy</b>	420	419	827	857	1,366
<b>Spain</b>	70	70	100	224	508
<b>UK</b>	5	15	129	445	657
<b>TOTAL UE</b>	2,048	2,246	4,228	6,069	10,289

## Biofuels Production, Top 15 Countries plus EU, 2006

Country	Fuel Ethanol	Biodiesel
	billion liters	
United States	18.3	0.85
Brazil	17.5	0.07
Germany	0.5	2.8
China	1	0.07
France	0.25	0.63
Italy	0.13	0.57
Spain	0.4	0.14
India	0.3	0.03
Canada	0.2	0.05
Poland	0.12	0.13
Czech	0.02	0.15
Colombia	0.2	0.06
Sweden	0.14	
Malaysia		0.14
United Kingdom		0.11
EU Total	1.6	4.5
World Total	39	6

Source: "Renewable 2007: Global Status Report". Published by REN21 (Renewable Energy Policy Network for the 21<sup>st</sup> Century).

# Corporate Interest as “Trojan Horse”

- The growth of biofuels development is side by side with growing interest of the corporate of various sectors. Big agribusiness, such Archer Daniels Midland (ADM), Noble, and Cargill, are the main backers.
- For example: According to Biofuels Watch, the EU’s biofuels policy has been influenced by the lobbying activities of interested industries (car-manufacturers, biotech companies and the oil industry).
  - Industries have been invited by the European Commission to shape EU policy on agrofuels through several industry-dominated advisory bodies. These include the Advisory Research Council for Biofuels (BIOFRAC), CARS21 and the European Biofuels Technology Platform (EBFTP).

## Transnational corporations investing in agrofuels

Agribusiness	ADM, Cargill, China National Cereals, Oils and Foodstuffs Import & Export Corporation, Noble Group, DuPont, Syngenta, ConAgra, Bunge, Itochu, Marubeni, Louis Dreyfus
sugar	British Sugar, Tate & Lyle, Tereos, Sucden, Cosan, AlcoGroup, EDF & Man, Bajaj Hindusthan, Royal Nedalco
palm oil	IOI, Peter Cremer, Wilmar
forestry	Weyerhaeuser, Tembec
Oil	British Petroleum, Eni, Shell, Mitsui, Mitsubishi, Repsol, Chevron, Titan, Lukoil, Petrobrás, Total, PetroChina, Bharat Petroleum, PT Medco, Gulf Oil
Finance	Rabobank, Barclays, Société Générale, Morgan Stanley, Kleiner Perkins Caufield & Byers, Goldman Sachs, Carlyle Group, Kohsla Ventures, George Soros

Source: Grain. "Corporate power - Agrofuels and the expansion of agribusiness". Retrieved from <http://www.grain.org/seedling/?id=478>

# Growth of Profit of Private Corporation on Biofuels

Company	Profit	Growth
Grain Trading		
• Archer Daniels Midland	\$ 1.15 billion	55%
• Cargill	\$ 1.03 billion	86%
• Bunge	\$ 867 million	189%
Seeds and Herbicides		
• Monsanto	\$2.23 billion	54%
• DuPont	\$786 million	21%
Fertilizer		
• Potash Corporation	\$66 million	186%
• Mosaic	\$520.8 million	1,200%
Source: Ian Angus <a href="#">Climate and Capitalism</a> . On April 28, 2008. <a href="http://www.globalresearch.ca/index.php?context=va&amp;aid=8949">http://www.globalresearch.ca/index.php?context=va&amp;aid=8949</a>		

# Profit of Wilmar Int. Ltd

- Wilmar Int. Ltd the Asia's leading palm oil trading company. It's the major supplier of CPO to biodiesel industry in Europe:
  - Last year, Wilmar International Limited reported a doubling of its net profit to US\$65.6 million (S\$100.5 million) for the half-year ended June 30, 2007. This was achieved on the back of a 64.1% jump in revenue to US\$3,897.5 million (S\$5,969.8 million) during the half-year under review.

Wilmar's Profit in 2005, 2006, and 2007	in US\$ million		
	2005	2006	2007
Year	2005	2006	2007
Revenue	2,217.70	2,374.90	3,897.50
Profit from Operation	49.8	64.5	117.5
Profit before taxation	27.9	42.1	87.2
Net Profit	23	32	65.6
Source: compiled from Wilmar' Press release issued in August 28, 2006 and August 14, 2007 and			

# Asian and third world Agriculture as Backbone of biofuels industry

- Developed countries need third world agriculture to secure their blending mandates:
  - Europe needs to use 70% of its farmland for fuel. The United States' entire corn and soy harvest would need to be processed as ethanol and biodiesel.
  - The targets itself is far exceed the agricultural capacities of the industrial North, both US and EU. Thus, they expect the South to meet their fuel needs, and southern governments appear eager to oblige.
  - Indonesia and Malaysia are rapidly cutting down forests to expand oil-palm plantations targeted to supply up to 20% of the European Union biodiesel market.
  - In Brazil—where fuel crops already occupy an area the size of the Netherlands, Belgium, Luxemburg and Great Britain combined—the government is planning a fivefold increase in sugar cane acreage with a goal of replacing 10% of the world's gasoline by 2025.

# Crisis in Asian Agriculture

- Asian agriculture also has been in crisis for the longest time.
  - backwardness of their tools and production, monopoly of land, tools and inputs, TNC incursions and control in production and trade,
  - existing exploitative relations such as tenancy, usury, overpricing of inputs by TNCs and traders, and under pricing of farmers' produce by traders and middlemen.
  - Landlessness remains prevalent and has worsened, with vast tracts of land still in the hands of landlords and corporations. Majority of the land tillers in the Asian countries are still landless.

- General Features of Asian Agricultures
  - traditional vs 'modern' type of production
  - small vs large scale agriculture
  - food crop vs cash crop
  - Cost vs Benefits
  - Local vs import
  - Less vs full protection.

# Impact of biofuels production to Asian Agriculture

- **Monoculturization:**
  - Indonesia is already planting its 6 million hectares for palm-oil and it will be more to 20 million in the upcoming years. Driven by the same trends, India is planting jatropha on their “culturable wasteland” and China are already converted their maize into fuel.
  - in 1992 to 2002, in averages more than 110.000 hectares of food-farmland had been converted into non-agriculture use. In Java, at least 58.3 percent the food farmland had been converted to real estate and housing.
  - Decreasing amount of food farmland is contradict with the increasing amount of the palm oil plantations.
- **Agrarian Dispute and conflicts:**
  - In 2006, there had already some 350 conflicts happened in Indonesia.
  - the customary rights of 2,000 Dayak communities in central Kalimantan were threatened by palm-oil expansion plans.
  - In West Kalimantan, Indonesia—the UN has identified 5 million indigenous people who are likely to be displaced because of biofuel crop expansion.
  - Since 1993 to 2003, number of landless and poor peasant also increased from 52 to 56 percent.

- **Biodiversity Lost.**
  - The highest yield agrofuel feedstocks are those grown in tropical regions, where photosynthesis rates are highest. Sugar cane and palm oil have the highest rates.
  - Indonesia lost 24.1% of its forest cover between 1990 and 2005. Since the end of the 1990s, deforestation rates have climbed by 26%. Rising deforestation rates have gone hand in hand with the expansion of oil palm plantations from 600,000 hectares in 1985 to 6.4 million hectares in 2006.
- **Spreads of GMO:**
  - Presently 52% of corn, 89% of soy and 50% of canola in the US is genetically modified (GM).
- **Serious treats from herbicide to the farm workers.**
- **Net-food importers countries.**
  - Indonesia: Now, there only 11.6 million hectares food farmland and only 7.6 million hectares that been irrigated. Almost 11.8 million hectares are needed to fill domestic needs.
- **Indonesia as sample:**

# Peoples Food Sovereignty

- In general, large-scale agrofuels production decreases the freedom, and capacity of peoples and communities to exercise and realize their right to access food and to productive resources such land and capital to produce food.

# conclusions

- Biofuels may indeed provide some positive environmental effects, but it can never be fully maximized within the current framework of monopoly control in the production and trade by giant energy and agribusiness companies.
- The people in Asia will be forced to pay twice for this misguided “climate strategy”:
  - rapid global warming will threaten the lives of ever larger numbers of Indonesians, with 2,000 islands at the risk of being submerged in coming decades; and many communities will lose their livelihoods as millions of hectares of land are turned into agrofuel plantations.
- Agrofuels expansion violated the freedom and the capacity of the people and their communities to exercise and realize their right to access to adequate and nutritious food including access to productive resources such as land and capital to produce food