Food versus fuel?
Technoscientific solutions for what problem?

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‘Food vs fuel’ debate

- Since 2007 world-wide biofuel expansion has provoked controvers about harmful effects in the global South.
- Harm includes land grabs, community dispossession of resources, deforestation, higher food prices, more chemical-intensive cultivation.
- Controversy focused on biofuel policies in global North, e.g. US subsidies and EU targets (indirect subsidy), for driving biofuel expansion and thus harmful changes in land use (Franco et al., *JPS*, 2010).
- Effects can be indirect: as Germany used more rapeseed for biodiesel, industry imported more palm oil from Indonesia, stimulating plantations.
- Biofuel production by 2008 could not entirely account for higher food prices. Animal feed production was greatly expanding too.
- But price rise was an early warning: Biofuel production was set to expand rapidly; land use&prices were anticipating larger global markets.

Biodiesel: fuelling hunger?

Protest by MST and trade unions

at International Biofuels Conference, Brazil, 20 November 2008

Banner blames Brazilian biofuel policy for slave labour and more expensive food


Agrofuels
no cure
for oil addiction

Food vs fuel? Questions for analysis

- How does biofuel production relate to food access?
- How to understand the source of conflict?
  e.g., as contingent, negative side-effects of a development which otherwise benefits rural populations?
  e.g, or as an integral feature of agri-industrial development?
- What choices of rural development are at stake?
- Could the conflict be remedied by technoscientific solutions? What problem is addressed?

Food security = ?

- Biofuel controversy intersected with a prior debate over ‘food security’ – a contentious concept.
- **Food security** perspective of biofuel proponents:
  Need to increase productivity of renewable resources, esp. ‘marginal land’ and next-generation biofuels, thus avoiding conflict with food production;
  Need more employment as source of income to buy food.
- **Food sovereignty** perspective of biofuel critics:
  Need for rural populations to maintain common access to natural resources for fulfilling their own subsistence needs – threatened by agro-industrial methods and land grabs.

Food security or food sovereignty?

- **Food security** perspective: enhance food availability by increasing production and importing via global markets and/or via outsourcing.
- 1975 UN definition ('availability of basic foodstuffs') was criticised and later expanded: 'physical, social and economic access to sufficient, safe and nutritious food' (FAO, 2001).
- But even the broader definition was still silent about socio-economic control of the food system
  (Patel*, JPS*, 2009).

- **Food sovereignty** perspective: territorial self-sufficiency in food.
- 'Food sovereignty is the right of each nation to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity' (Via Campesina 1996).

UN Special Rapporteur on the Right to Food warns about:
the opportunity costs involved in giving away farmland that is considered 'idle' to promote a type of farming that will have much less powerful poverty-reducing impacts than if access to land and water were democratized for the local farming communities
(De Schutter, *JPS*, 2012).

Agri-industrial systems for food security?

- Agri-industrial systems have already harmed rural livelihoods by taking over the most fertile land and by polluting resources necessary for local agriculture.
- Long before biofuels, such harm was resulting from intensive monocultures of crops, mainly for edible oils or animal feed, e.g.
  soya monoculture in Argentina; and
  oil palm plantations in Indonesia.
- Intensive monocultures depend upon agrichemicals, insecure labour and its reduction.
- Contract farmers purchase inputs through loans, undergo debt, become dependent on selling their labour, etc. – eventually losing control over land use and local resources

Technoscientific efficiency as remedy?

- ‘Sustainable intensification’, as a range of techniques, is proposed to feed a growing population, while alleviating pressures on land and natural resources.
- Higher productivity will need less land, assuming that agro-food-feed production serves a finite market.
- Assumption valid? More ‘efficient’ techniques (needing external-input investment) have been an incentive to extend agri-industrial systems, mainly for export markets.
- High-yield/response varieties have stimulated plantations taking over the most fertile land, e.g. India and Latin America.

Similar land grabs for biofuel crops

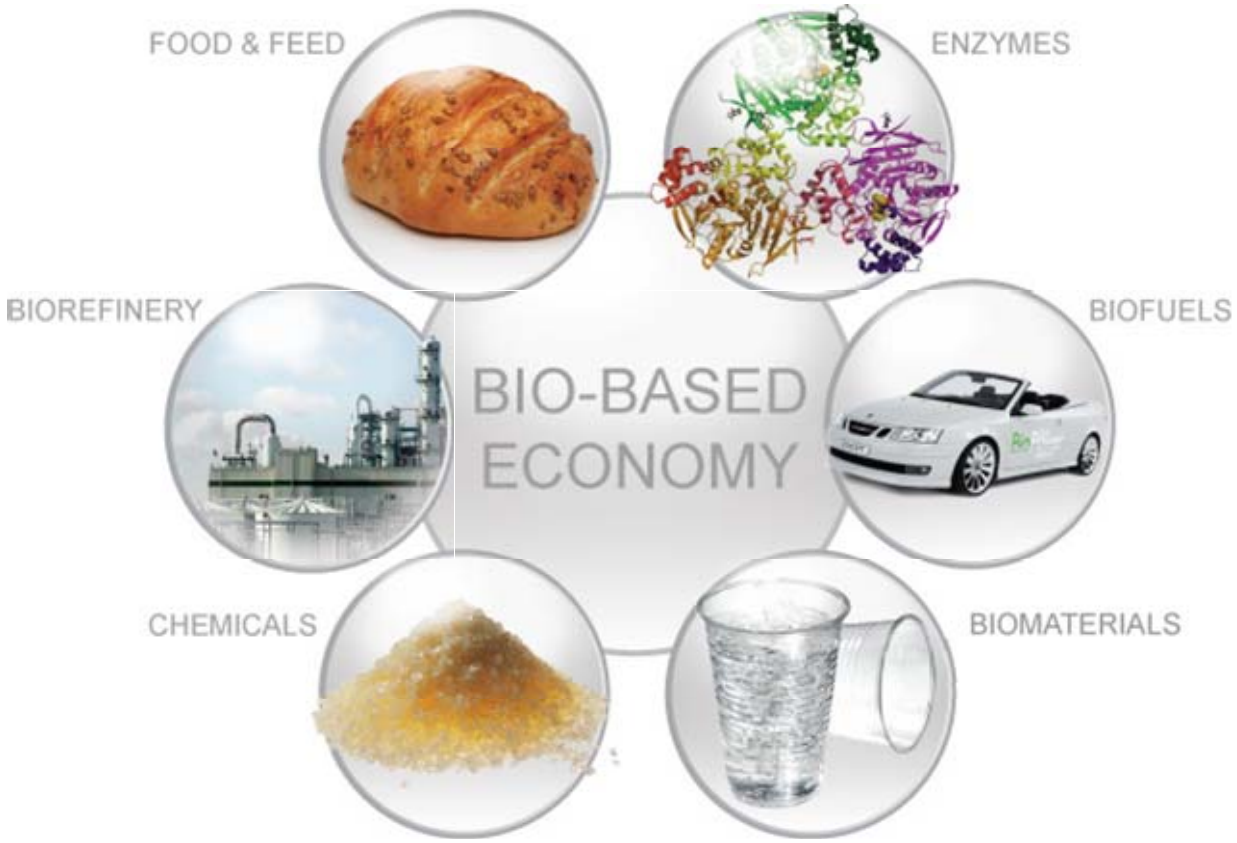
- Similar harm also results from biofuel crops, especially when produced industrially for a global market.
- Indonesia: oil palm plantations being expanded.
- Latin America:
  GM herbicide-tolerant soy monocultures being extended from Argentina to Paraguay, where the army enforces herbicide spraying against local protest.
- Tanzania: Jatropha shifting from small-scale peasant context to agri-industrial production for oil export.
- Mozambique: Biofuel crop cultivation diverts scarce water in arid areas, thus undermining food production.

Driver: global industrial integration

- Biofuels originated in national policy frameworks, which protected domestic production from foreign competition and even from exports. Governments had regulatory scope to protect local populations and environments.
- Earlier protections have been undermined by global industrial agendas, driven by an emerging agri-feed-fuel industry, being integrated along horizontal and vertical lines (Mol, 2009). Integration links agri-input suppliers, grain merchants, energy suppliers, etc.
- Standard products are sought for global commodity exchange, with flexible production of feed, energy or other products from the same harvest.
- Integration process has been envisaged as a 'bio-economy'.

Bio-economy (horizontal integration) as solution?

industry network website, www.bio-economy.net



Bio-economy: what problem to address?

- Horizontal integration with 'eco-efficient' inputs are proposed as a solution: to what problem?
- Agri-tech lobby emphasises expanding global market:
  … the worldwide demand for feed will increase dramatically as a result of the growing demand for high-value animal protein….. [also] feed and food are increasingly competing with non-food products (bio-energy and industrial products, such as bio-plastics for packaging) for acreage systems.. All the above facts mean that more arable land will have to be farmed for feed and food or crop productivity will have to be boosted significantly (Plants for the Future Technology Platform, 2007).
- Need to feed 9 billion people by 2050 by doubling food production (Becoteps, 2011, citing FAO, 2010).
  Here 'food' conflates nutritional needs with animal feed for meat
- Agri-tech lobby portrays its own agenda as a public-good response to 'market demand' as an external, objective imperative.
- R&D agendas seek to supply a global market, while creating more incentives for investment to expand into fertile land.

2nd-generation biofuels as solution?

- 'Next-generation' fuels have been proposed as a means to enhance sustainable crop production and avoid competition for land use. Will bring us 'food **and** fuel'.
- 2nd-generation fuels would convert plant (esp. waste) material more efficiently into energy, e.g.
  by using only the non-food parts of food crops, or
  by cultivating non-food crops on 'marginal land'.
- Promises for such future innovation provide an extra policy argument to expand biofuel market now and thus to create economic incentives for future techno-solutions.
- Techno-fix defines the sustainability problem as inefficiency generating competition for scarce natural resources.
- Problem-diagnosis conflates human nutritional needs with commodity production for global markets.
- Increasing such efficiency provides stronger financial incentive for agri-industrial systems to appropriate more resources to supply and even expand global markets (Levidow & Paul, 2011).

‘Food vs fuel’ as a remediable side-effect?

- Current process has analogies to primitive accumulation:
  In ‘the historical process of divorcing the producer from the means of production’, entire populations are ‘forcibly torn from their means of subsistence’. In particular,
  ‘The expropriation of the agricultural producers, of the peasant, from the soil is the basis of the whole process’ (Marx, *Capital*).
- Separation of producers from natural resources (especially for food production) continues to be ‘the basis’ of turning land and labour into inputs for capital accumulation, i.e. means to expand exchange value via global markets.
- In recent decades, such dispossession has been extended via:
  the commodification and privatization of land and the forceful expulsion of peasant populations; conversion of various forms of property rights (common, collective, state, etc.) into exclusive private property rights; suppression of rights to the commons; commodification of labour power and the suppression of alternative (indigenous) forms of production and consumption… (Harvey, 2003).

Conclusion: what food problem?

- ‘Food security vs food sovereignty’ perspectives start from divergent problem-diagnoses, implying divergent remedies.
- ‘Food security’ conflates human needs with greater food supply as ‘demanded’ by global markets (esp. meat) via agri-industrial development.
  Naturalises capital accumulation as ‘global market demand’.
- ‘Food sovereignty’ aims for food self-sufficiency via community, regional, national control over food supply.
- Societal choices are obscured by the supposedly objective imperative of more efficient production as universal remedy.

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