The political ecology of the 'New Green Revolution' in sub-Saharan Africa: emerging trends and research priorities

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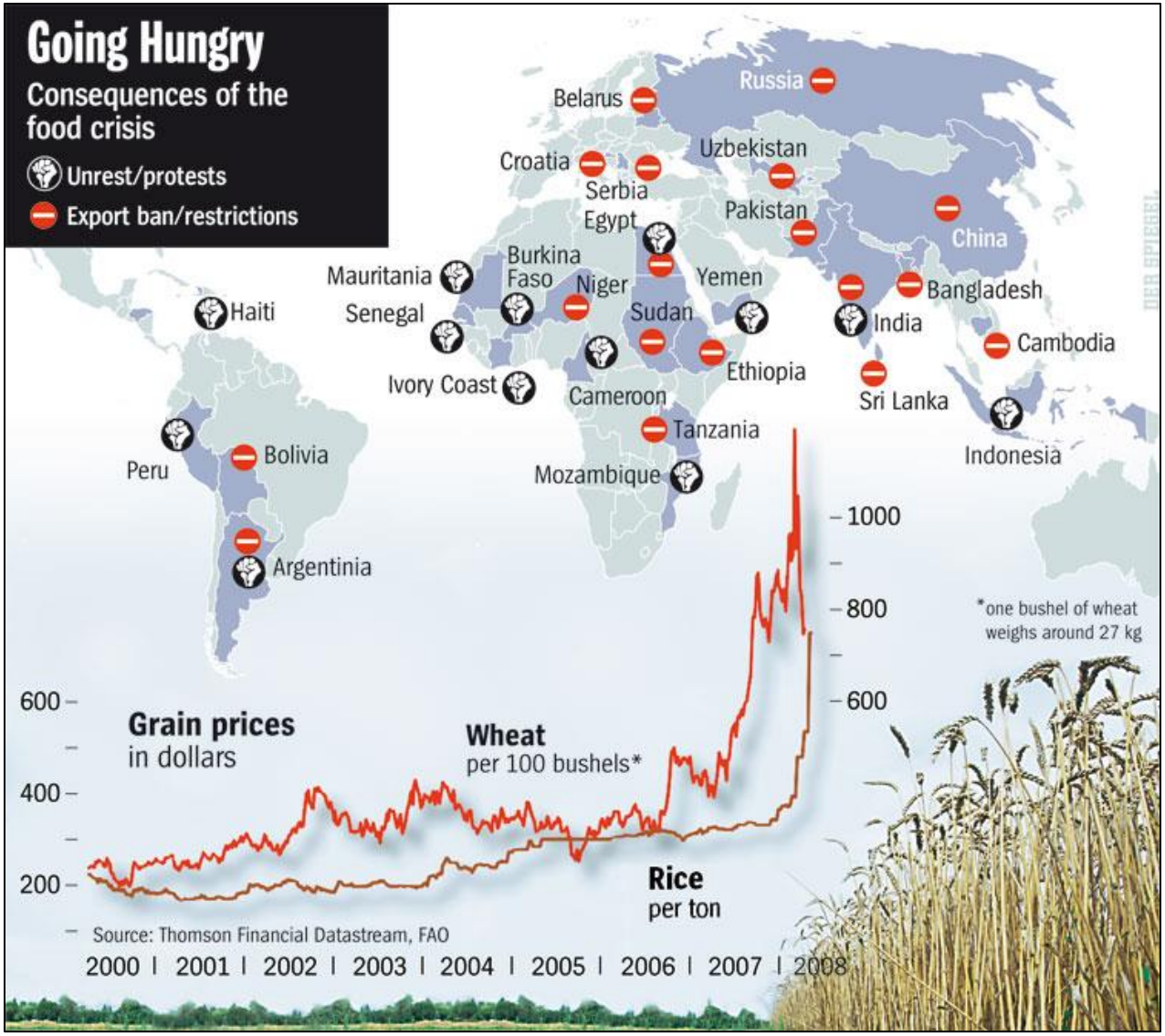
- Watts, N. and Scales, I.R. (2015) ‘Seeds, agricultural systems and socio-natures: Towards an actor-network theory informed political ecology of agriculture’ *Geography Compass*, 9, 225-236

Agriculture and food security in sub-Saharan Africa:

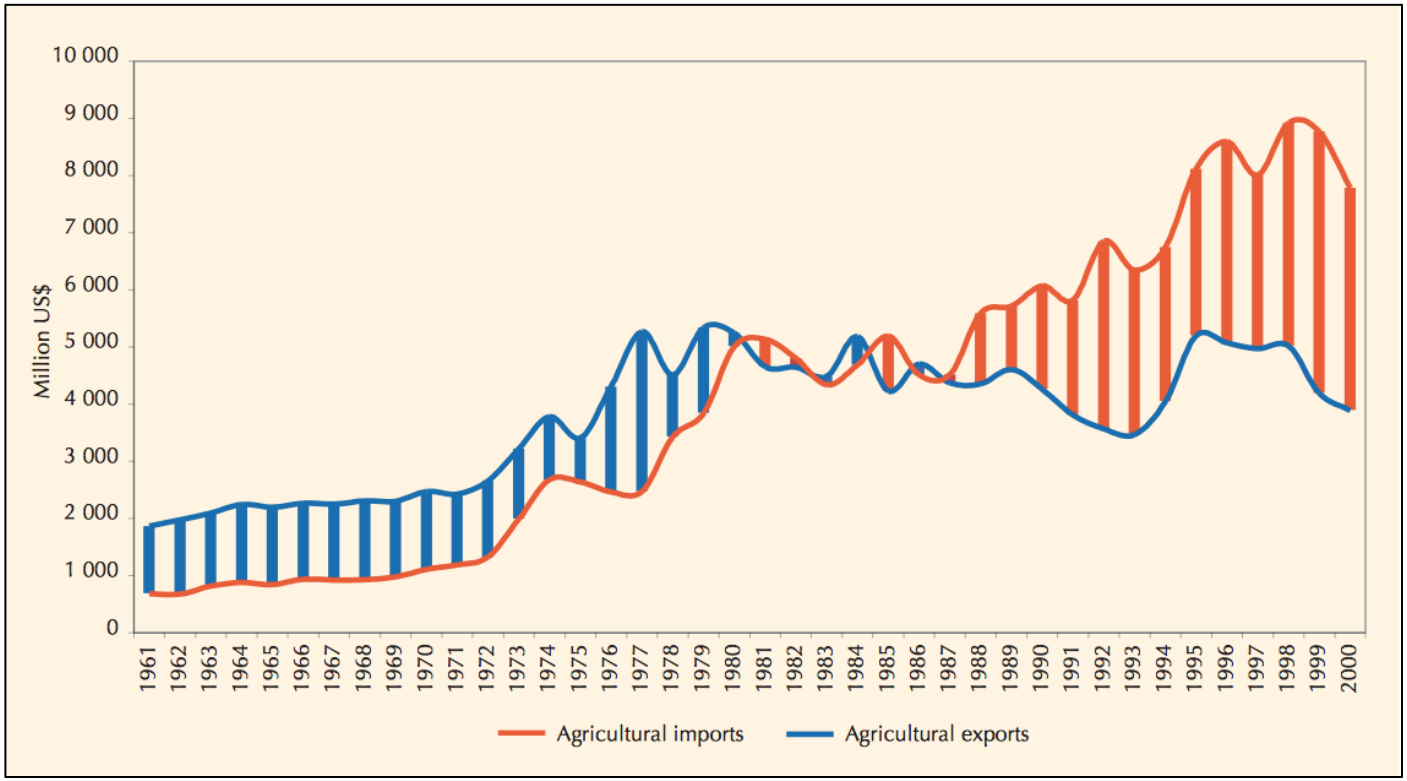
Emerging trends

The 2008 world food price crisis



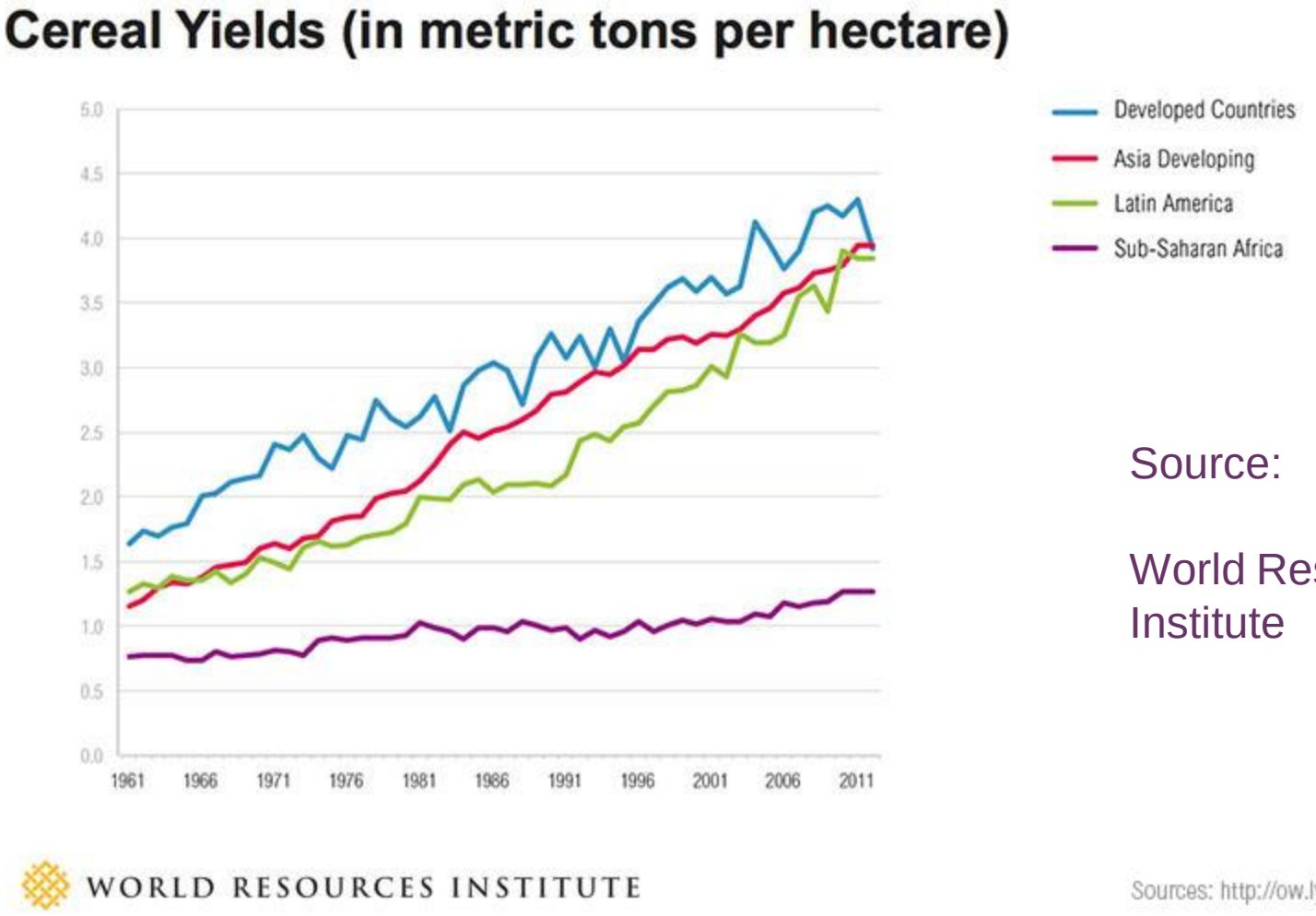
Source: Der Spiegel

Food imports / exports in low-income countries



Least developed countries have become net food importers

Source: FAO Agricultural Trade, Trade Policies and the Global Food System



Source:

World Resources Institute

Sub-Saharan Africa did not experience a ‘green revolution’

A new green revolution?

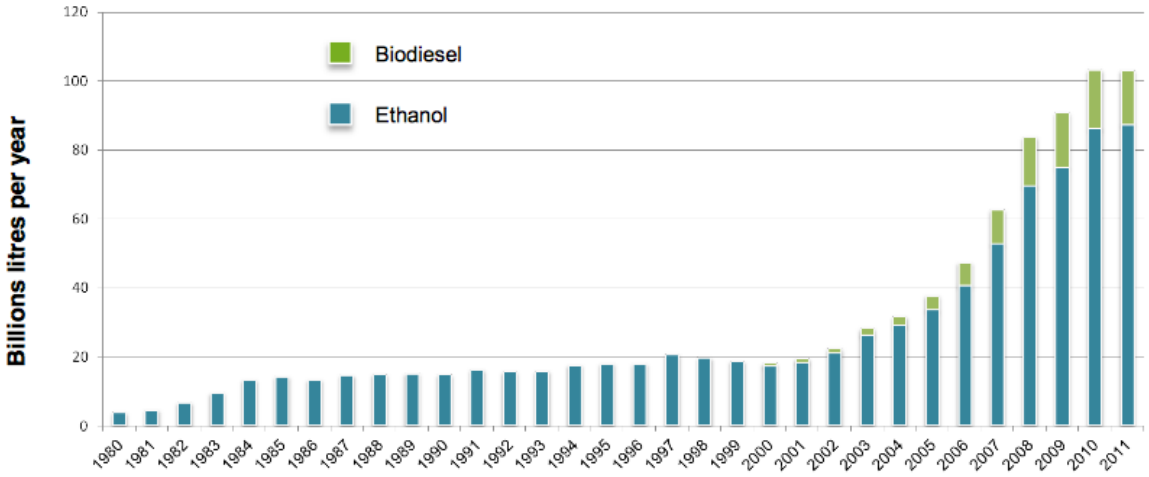
- Aim to boost yields on land already being farmed
- E.g. Breeding crop varieties that can withstand adverse conditions (e.g. salt-tolerant rice, drought-resistant sorghums and millets)
- Improved pest and disease resistance to replace / reduce chemical pest control
- Emphasis on the potential of GM

Africa's Turn

A New Green Revolution for the 21st Century

THE ROCKEFELLER FOUNDATION ▪ JULY 2006

Global biofuel production / consumption

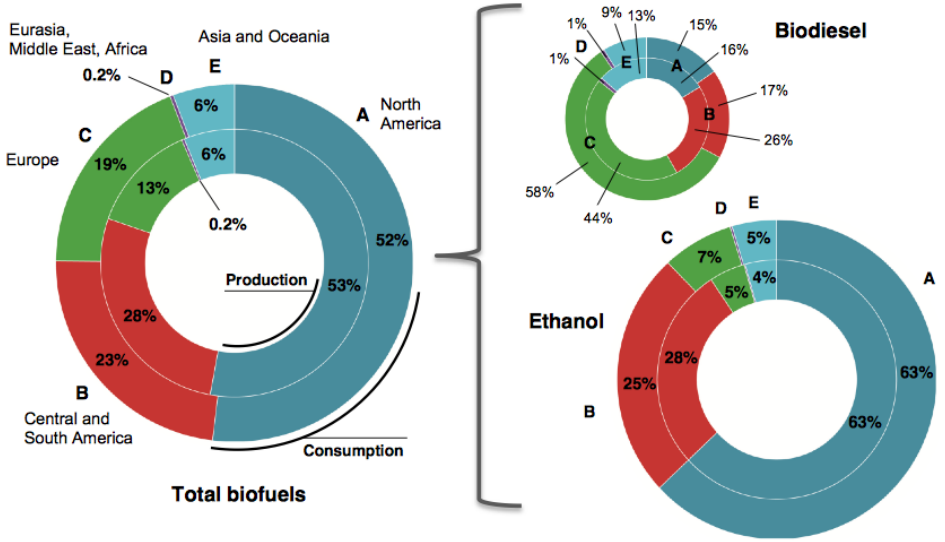


Global biofuel production tripled between 2000 and 2007

Source:

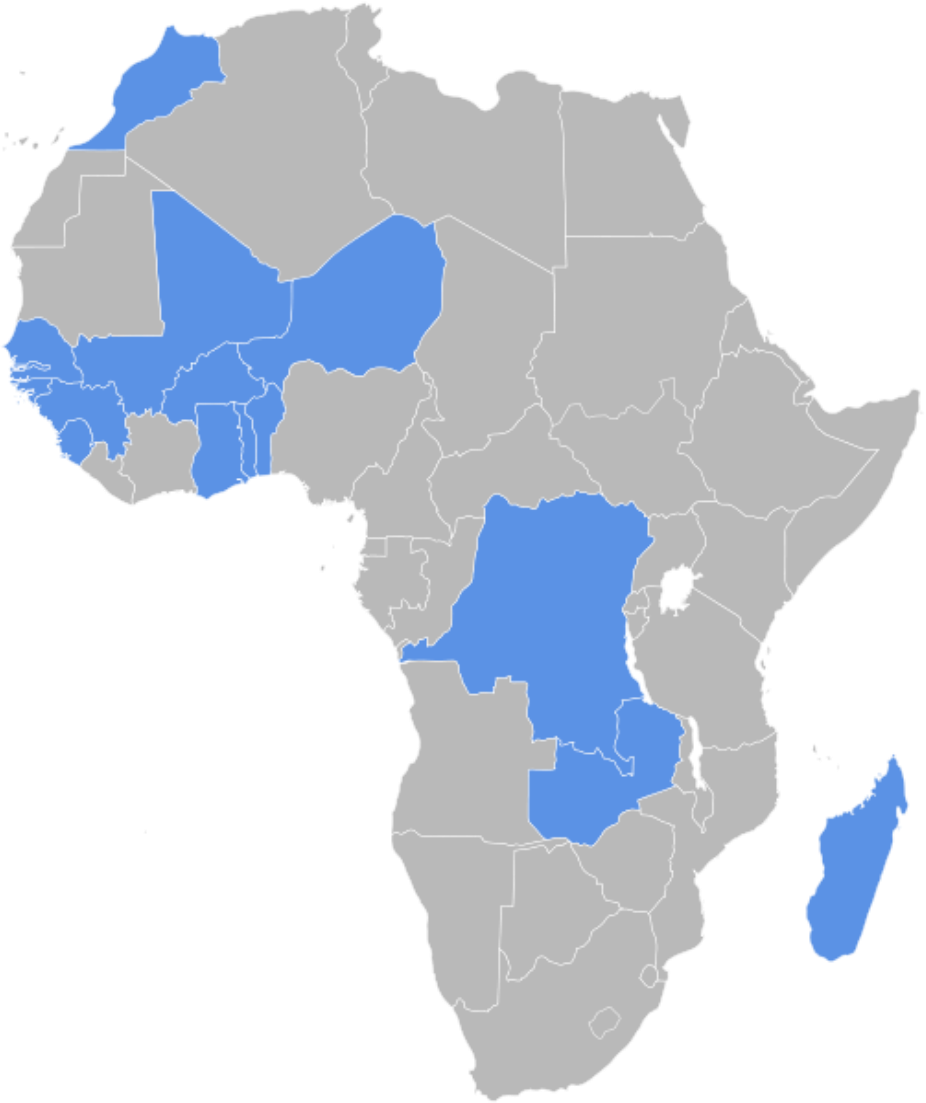
US Energy Information Administration

Biofuel production and consumption by region



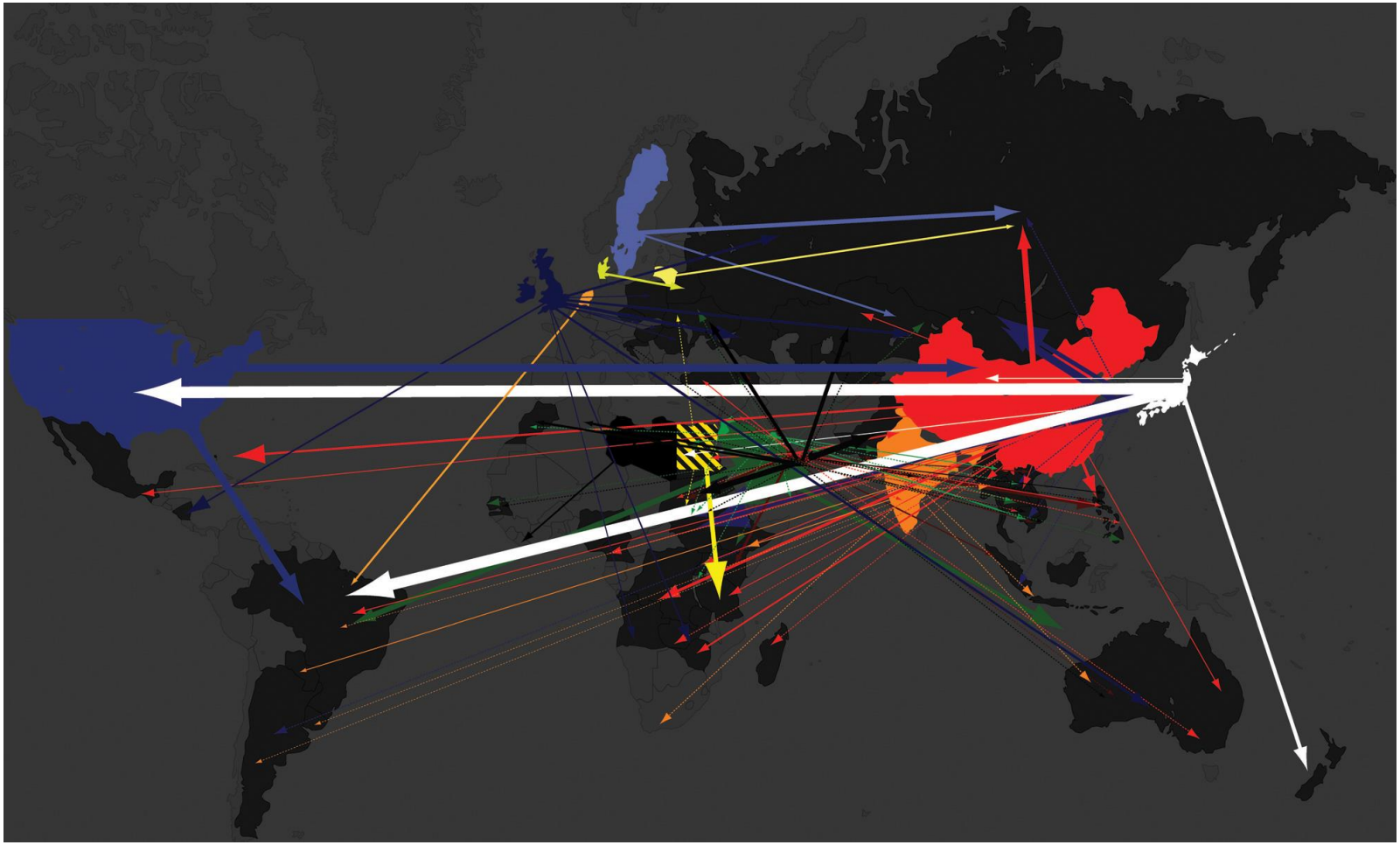
2011 Biofuel production (inner circles) and consumption (outer circles) by main region, in percent of world totals. **A** = North America; **B** = Central and South America; **C** = Europe; **D** = Eurasia, Middle East, Africa; **E** = Asia and Oceania. In 2011, biodiesel reprented 21.3% of total biofuel production.
Source: EIA / International Energy Statistics, available at http://www.eia.gov/.

Pan-African Non-Petroleum Producers Association



- Benin
- Burkina Faso
- DRC
- Ghana
- Guinea
- Guinea-Bissau
- Mali
- Madagascar
- Morocco
- Niger
- Senegal
- Sierra Leone
- The Gambia
- Togo
- Zambia

The geography of land acquisition



Global Land Grab: map of land purchases by governments and private companies in known areas of the world (Source: OPSYS)

Agriculture and food security in sub-Saharan Africa

A view from political ecology

Political ecology

- An approach to investigating human–environment relations that focuses on questions of access to and control over natural resources
- Seeks to understand the socio-economic drivers of environmental change
- Starts from the premise that natural resources are used and contested by multiple stakeholders, who often have contrasting and conflicting priorities
- The costs and benefits of resource use are unevenly distributed
- Actors differ in the power they have over access to and control of resources

Key debates / issues / questions / priorities

The political ecology of scale

- The emerging literature on food security has tended to focus on the global level
- Food security is framed as a global problem requiring global solutions
- There has been an empirical focus on global land grabs; global commodity chains; the power of global agri-business; the growing influence of neoliberal policies
- BUT how do these 'touch down' in different places? The uneven geographies of agriculture and food security
- Focus on the 'global' also leads to tendency to treat 'states', 'corporations' and 'households' as pre-given containers. Need to understand processes and differences within them
- At what level(s) is food security best addressed (e.g. debates over food sovereignty)?

The political ecology of agricultural knowledge

- Emphasis on the potential of agricultural science (e.g. GM) to boost yields BUT some suspicious of science, especially global agri-business (e.g. Vandana Shiva)
- Both positions are problematic
- How do new techniques / seeds fit with existing smallholder knowledge / priorities?
- How are new seeds and technologies incorporated and hybridised?
- What are the power relations surrounding new seeds and technologies?
- What factors help to explain differences between and within communities and households in the adoption of technologies and practices? e.g. gender, class