

Food Security

SDPCW-11, Class notes by Dr Tim Anderson



Corn piled 35 feet high, ethanol plant in Sioux Center, Iowa - NYT January 2006

Overview

1. Hunger, self determination and food security
2. Economic Liberal 'food security'
3. Global food crises
4. Vulnerable countries (Haiti and Timor Leste)
5. Food sovereignty

Essay Question: Explain the limitations of 'food security' ideas based on liberal 'free trade'.

1. Hunger, self determination and food security

Overview:

As in many important policy areas, there may be agreement on *broad aims* but important differences begin with *the means* of achieving those aims.

Any organised people must be able to secure its essential food supplies, but how will they do this?

The two broad arguments are

- expand income by trade and purchase food (economic liberal)
- ensure social control of essential food supply (food sovereignty)

Key practical concerns:

- do ordinary people have access to *good land*? OR
- do they have *consistent income* to purchase food? OR
- Are there *social programs* which guarantee access to food?

Those countries which export food often support economic liberal ideas, but most countries (rich and poor) practice some form of protecting their domestic food production and this some measure of self-reliance.

Hunger and food: initial concepts

- Right to food → policies of food security
 - Consensus on principle, divergence over the means
- hunger / malnutrition / starvation / 2 measures:
 - under-nutrition / mal-nutrition - prolonged low levels of food intake / inadequate food intake (FAO)
 - moderate malnutrition / severe acute malnutrition - weight for age health risk / life threatening version (WHO)
- nutritional deficiencies in children –
 - most under-5 deaths are linked to malnutrition: "a conspiracy between malnutrition and infection" (Pelletier 1995)
- 'food' in food security debates generally starts with *staple foods* (rice, wheat, corn, tubers)



Food and Agriculture
Organization of the
United Nations



World Health
Organization

Many countries with serious hunger problems are substantial **food exporters** (e.g. India, Pakistan, Thailand) – production is **not necessarily** the problem, e.g.

- **Thailand** (world's 2nd largest rice exporter):
 - Rice exports - 9.4 million tonnes in 2001 (FAO 2002)
 - Population malnourished - 22% in 2002-04 (FAO 2008)
 - Children underweight for age - 18% in 2000 (UNDP 2007)
- On the other hand, **most** smaller developing countries with food security problems are staple food importers



Reading Data:

Asian rice production and trade

	imports	exports	production
China	944	4,651	189,814
India	42	2,314	129,444
Pakistan	2	3,013	7,205
Thailand	3	9,424	25,608
Vietnam	8	5,268	32,530
Indonesia	2,040	5	51,898
Philippines	993	1	12,389

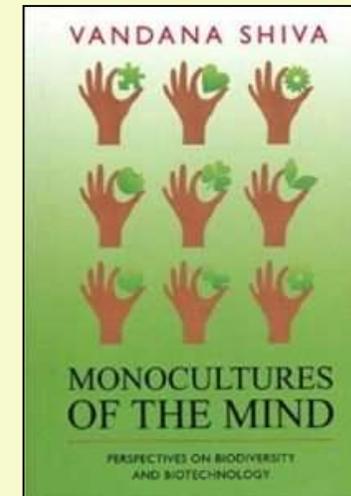
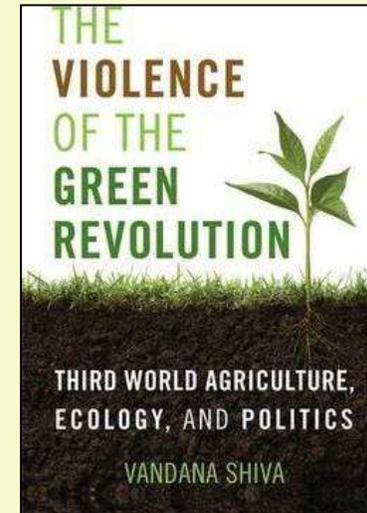
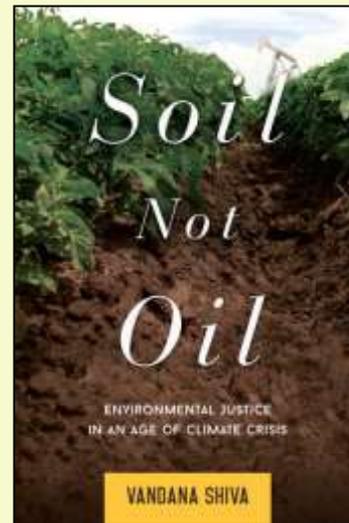
UN FAO (2002) Food Balance Sheet ('000 tonnes, 2001)

Q: Global rice trade is about 25-30m tonnes; China became a net importer in 2004-05; how important is food trade?

Important themes in food security:

- Production:** not a general problem, yet;
- role of **MNCs**? (monopoly price maximisers);
- food aid:** emergencies? longer term?
- land tenure** and population pressures;
- how important is **trade** and agric. trade?
- different approaches to food security;
- the contribution of **energy prices** (inputs, machinery, fertiliser, transport) and **biofuels**

Video (1'47"): Vandana Shiva (1) Food insecurity amongst farmers, (2) what food should be traded? (3) 'food as a weapon'.
Full video here: <https://www.youtube.com/watch?v=jEqS6rnoyYc>



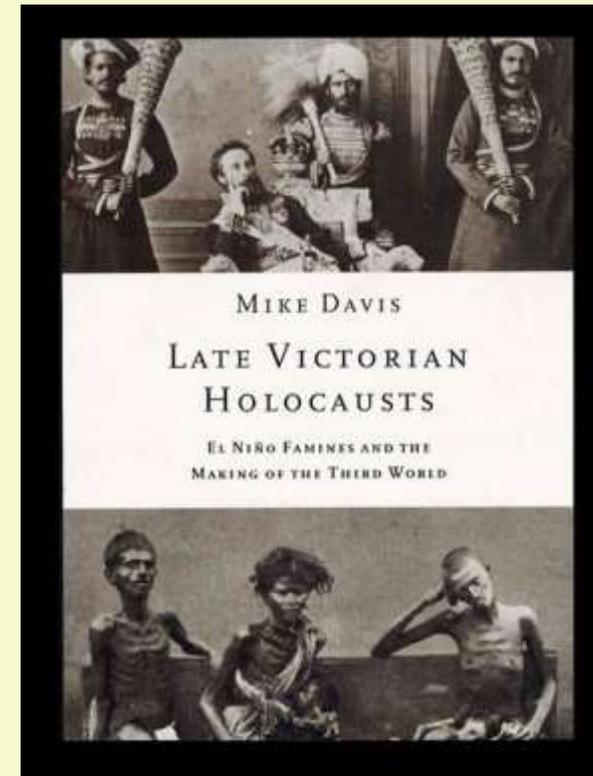
A historical view of famines

- India's Deccan famine: 1876-79
 - Drought ('monsoon failure'), wheat exports to Britain (700,000 tons), grain riots (150 in 1877), population fell between 9 and 19 million (Davis 2001)
- Polanyi (1944: 160): 'the actual source of famines in last fifty years was the free marketing of grain combined with local failure of income'
- Globalised hunger - 2008
 - international trading system - steep rise in grain prices, an extra 200 million undernourished

'Complete Failure Of British Policy Caused 1943 Bengal Famine, Not Drought': Says IIT Research



Video (1'43"): Churchill and the 1943 Bengal famine. Great famines have been the products of racist colonial administration.
Full video here: <https://www.youtube.com/watch?v=XOxXZ3rNISc>



Solution: a 'second green revolution'?

Some suggest that a second 'green revolution' is the answer to food crises, but Q: **what was the first 'green revolution'?**

Opposing a 'technical fix', **Aileen Kwa** notes that high input industrial agriculture in the Philippines and Costa Rica led to:

'the bankruptcy of the poorest farmers who have not been able to pay their debts as input costs - seeds, pesticides and fertilisers - have risen while prices have fallen'. Farmers find themselves on a 'pesticide treadmill' (Kwa 2001)

THE GREEN REVOLUTION



NB: Chemically intensive agriculture looks weak in face of organics markets (e.g. coffee) and ecological sustainability

2. The economic liberal line

- **economic liberalism:**
 - exchange, income growth and 'trickle down'
 - advance one's 'comparative advantage' [or comparative disadvantage: TOT problems]
- agriculture included in WTO's trade liberalisation
- the 1994 Agreement on Agriculture (AOA)
- Cairns Group argues 'market access' – displaced in 2003 (WTO meeting in Mexico) by 'G22'

Discussion Qs: food trade liberalisation – what is the rationale? how is food trade different to other trade?

the WTO's 'Agreement on Agriculture' 1994

- **GATT/WTO** aims to convert quotas to tariffs, then reduce tariffs - also attempts to regulate subsidies
- **agreement on agriculture** (AOA) 1994: (i) Market access (ii) Tariff cuts (iii) Cuts in domestic subsidies – a complex system (iv) Cuts to export subsidies
- **'green box' allows** - subsidies which "must not distort trade [or only cause] minimal distortion"; to involve government funds but not price controls
 - e.g. research, disease control, infrastructure, food security programs, income support for farmers, agricultural restructuring)
- Yet many developing countries rely on **tariffs** for protection and income; wealthy countries can afford **direct subsidies**
 - (e.g. (i) US Farm Bill 2002 (US\$7.5bn pa) – 'green boxed' (ii) EU's CAP cut E1.3bn (1992-99) in export subsidies but added E2.1bn in green boxed domestic subsidies)

Cairns Group divide: grain exporters and importers
G22 group displaces Cairns Group, at WTO in 2003

Cairns Group of 18 agro-exporters (Australia, Canada, Argentina, Thailand .. also Indonesia, Philippines)

They all want 'market access through enhanced liberalisation of agricultural trade';

They all criticise US/EU subsidies;

However, many members are sensitive to food grain imports;

Agreement over bans on export subsidies and cuts to wealthy countries subsidies;

Disagreement over tariffs and liberalisation – many DCs want to protect their crops AND get market access

Rich country subsidies are now much less affected by AoA schedules (or bilateral 'free trade' agreements)

Q: why can bilateral agreements
NOT regulate subsidies?

FOOD TRADE AND THE CAIRNS GROUP

CAIRNS GROUP (2001) NET IMPORTS ('000 tonnes)

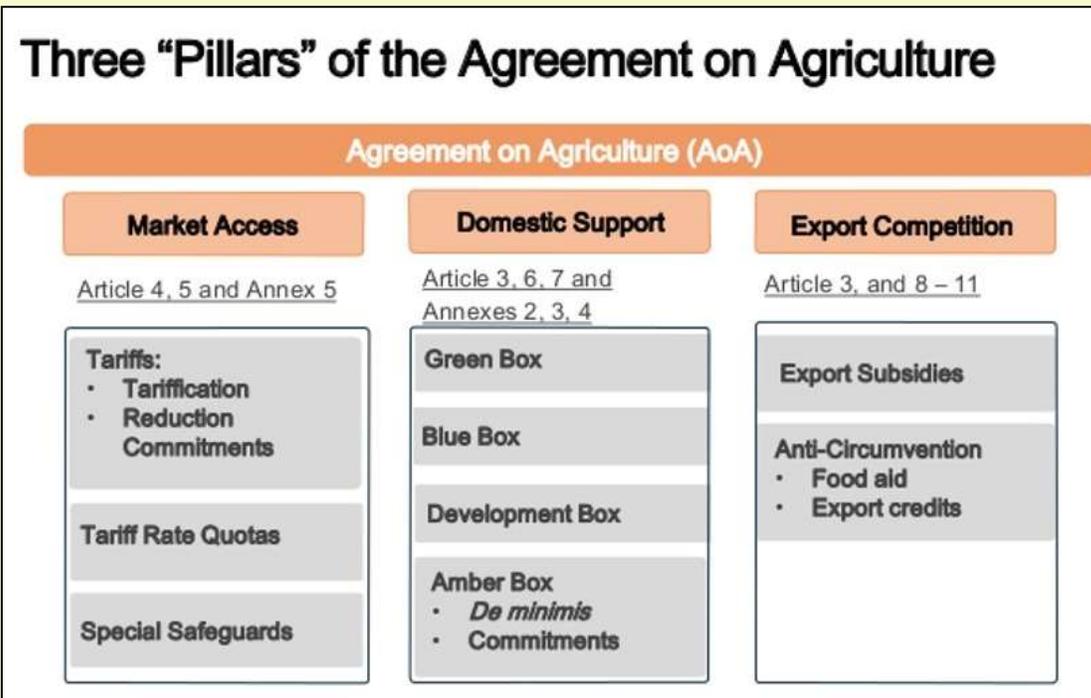
	rice	wheat	cereals
Argentina	-683	-11590	-24153
Australia	-909	-18010	-22440
Bolivia	14	453	499
Brazil	875	7813	11149
Canada	376	-18966	-21655
Chile	105	514	1824
Colombia	113	1095	3230
Costa Rica	59	213	766
Fiji	43	99	132
Guatemala	41	260	662
Indonesia	2035	4197	6897
Malaysia	747	1081	4400
New Zealand	47	232	266
Paraguay	-16	82	-84
Philippines	992	2700	4145
South Africa	776	581	884
Thailand	-9421	649	-5137
Uruguay	-1042	-8	-573

UN FAO (2002) Food Balance Sheet

<http://apps.fao.org/lim500/>

Video (1'12"): Agreement on Agriculture (AOA): (1) Agreement under the 1994 Uruguay Round of GATT --> 1995 WTO (2) Agro-exporters opposed huge subsidies in USA and EU (3) aimed to regulate Agro Trade like other commodity trade.

Full video here: <https://www.youtube.com/watch?v=rmaBnK5yxgo>



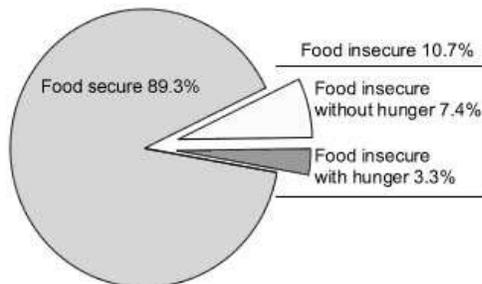
Some contradictions

- wealthy countries often preach economic liberalism, but practice autonomous food security
- US, EU (by subsidy) and Japan (by law and subsidy) all practice substantial protection of their agricultural sectors

Food security in the USA



Food security status of U.S. households, 2001

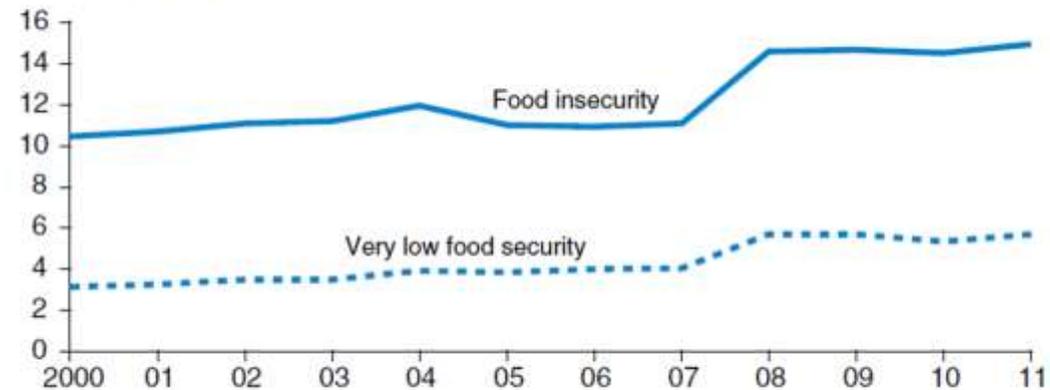


Source: Calculated by ERS using data from the December 2001 Current Population Survey Food Security Supplement.

<http://www.ers.usda.gov/Briefing/FoodSecurity/trends/>

The prevalence of food insecurity changed little since 2008-09

Percent of households



Source: Calculated by USDA, Economic Research Service based on Current Population Survey Food Security Supplement data.

the contradictions of 'comparative advantage'

Wheat production in Britain

Two centuries after Ricardo's 'comparative advantage' ideas, which urged expanded trade and less protection for wheat/agriculture -

- Hectares of wheat (increase in the 20th C)
 - 1900: 706,012
 - 2000: 1,956,759
- Tonnes of wheat produced (% UK consumption)
 - 2000: 16.7 million (118%)
 - 2009: 14 million (109%)

Source: UKAgriculture 2012, online:

<http://www.ukagriculture.com/crops/wheat.cfm>

Post-war increase in production: 1940-80, the UK went from 30% to 80% self-sufficient in crops, Food Security UK 2012, online: <http://www.foodsecurity.ac.uk/issue/history.html>

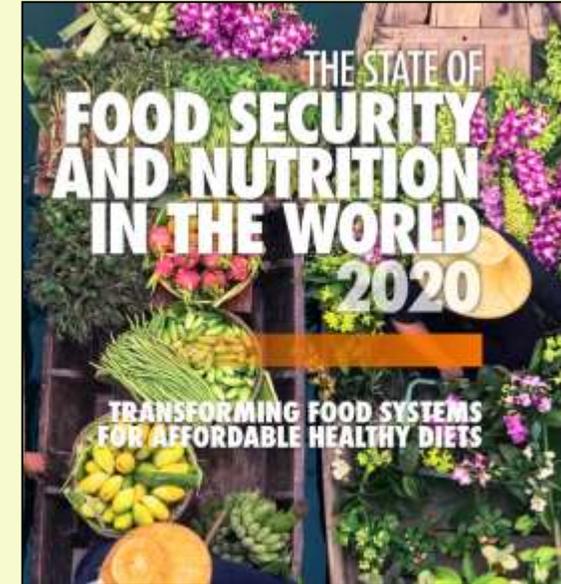


UK wheat production to rebound after 40-year low



Food security, ten years after the AOA

- cheaper food imports have "moderated the food import bills" of DCs, but have also increased food import dependence
 - 'Although lower basic food prices on international markets bring short-term benefits to net food-importing developing countries, lower international prices can also have negative impacts on domestic production in developing countries that might have lingering effects on their food security' (FAO 2004)
- developing countries are now, overall, net food importers
- trend reinforced by the decline in Chinese grain production



3. Global food crises (2008 and energy)

Grain price rises

- ❑ Wheat, rice, corn rose 100%+ in 2008
- ❑ Other key foods (fruit, eggs, milk, beans, meat) also rose strongly

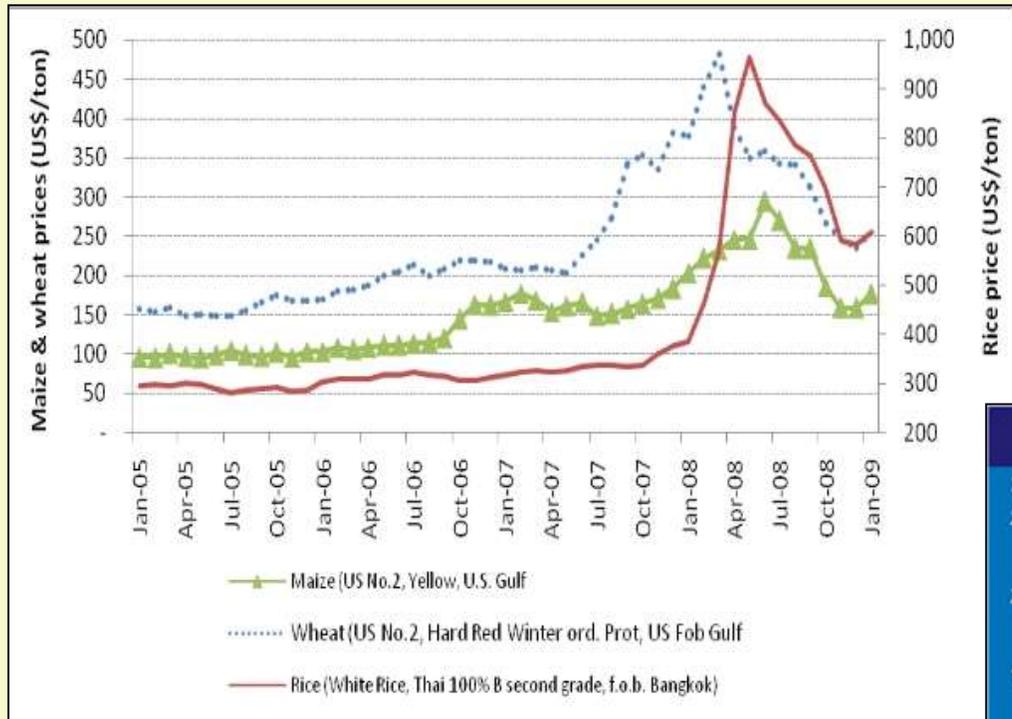
April 2008 - food price riots

- ❑ Bangladesh - 10,000 garment workers riot
- ❑ Haiti - riots, Prime Minister resigns
- ❑ Other riots - Egypt, Cameroon, Ethiopia, Ivory Coast, Madagascar ..



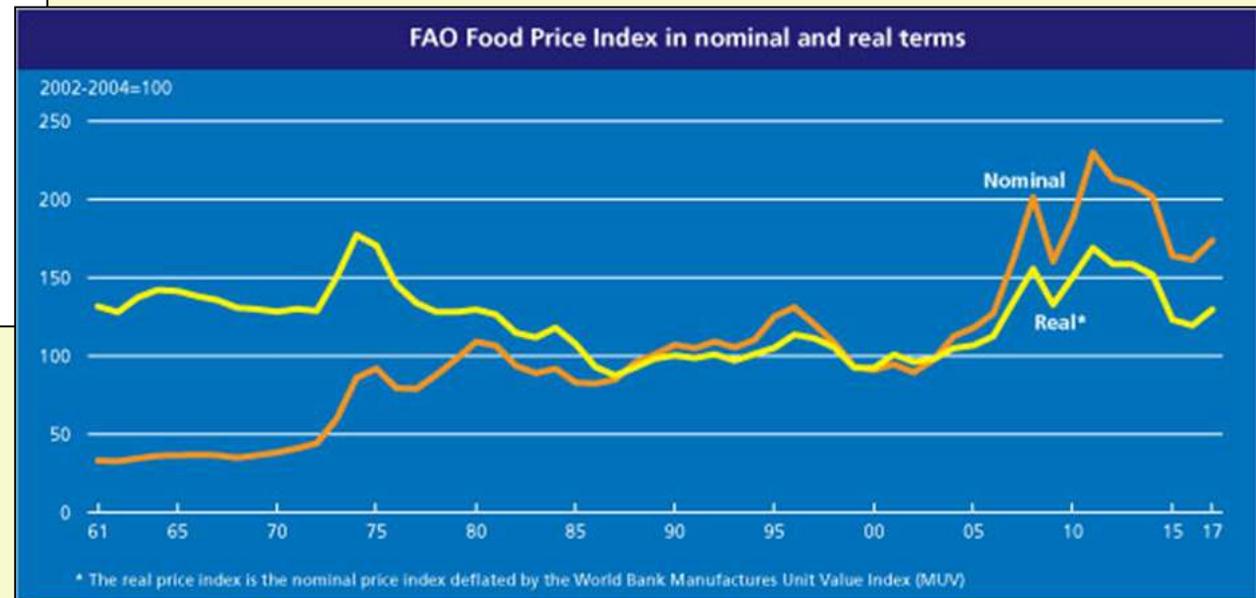
Food price riot in
Bangladesh

Staple food prices, 2005-2009

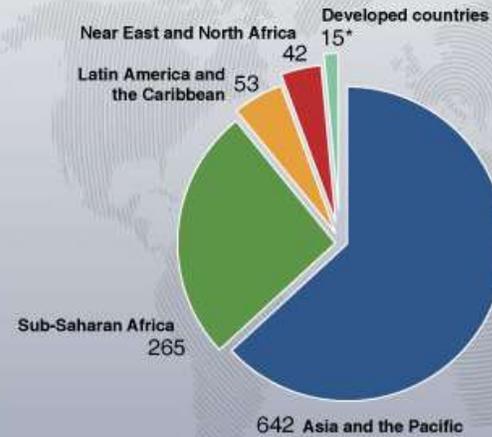


Price rises were the **proximate cause** of the 2008 crisis

FAO food price index, 1961-2017



More than 1.02 billion hungry people



FAO 2010

*Millions of people



FAO estimates that 1.02 billion people are undernourished worldwide in 2009. These are more hungry people than at any time since 1970, the earliest year for which comparable statistics are available.

Hunger has increased not as a result of poor harvests but because of high domestic food prices, lower incomes and increasing unemployment due to the global economic crisis. Many poor people cannot afford to buy the food they need.

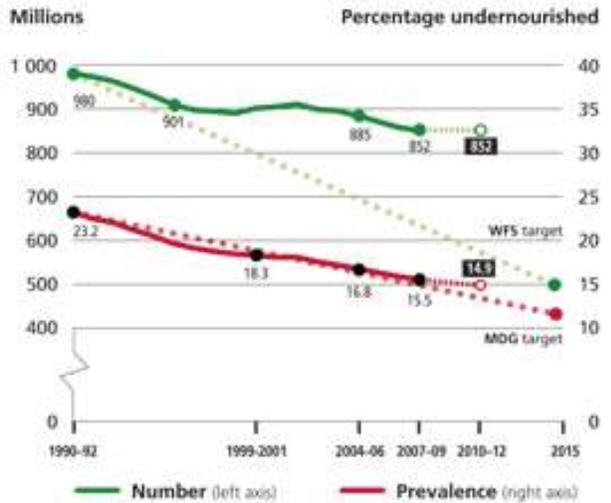
2008: first ever global food crisis

FAO (2010) 'Hunger', online at: <http://www.fao.org/hunger/en/>

Undernourished: 820m in 2006
--> 1,020m in 2009
India - 210 million (FAO 2008)
China - 154 million (FAO 2008)

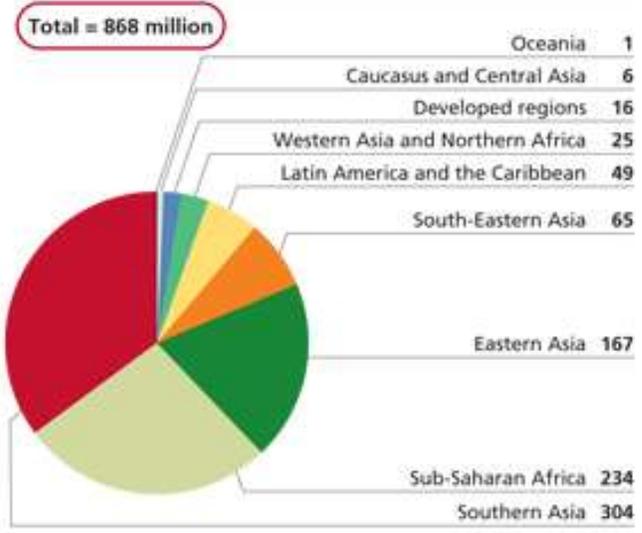
Q: 2012 data - what happened to that extra 200m?

Undernourishment in the developing world



Source: FAO.

Undernourishment in 2010-12, by region (millions)

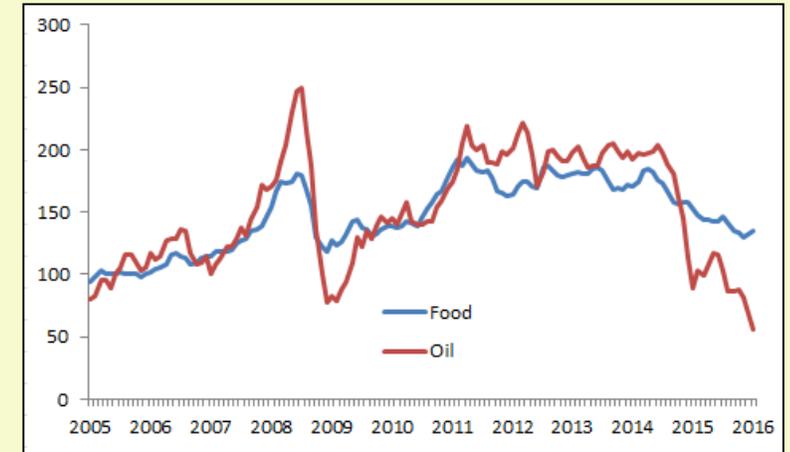


Source: FAO.

FAO 2012

Energy, biofuels and the 2008 food crisis

- ❑ **Oil prices** have been linked to food prices - as oil/energy is used for transport, harvesting - until recently;
- ❑ **Secondary markets** make prices more volatile;
- ❑ **Biofuels:** process waste vegetable oil and produce oil from oil-seed crops --> bioethanol, biodiesel;
- ❑ **Why biofuels?** - reduce GG emissions? fuel security? improved health?
- ❑ **Opposing views** - Biofuels should be 'priority number one' for the World Bank and D.C.s (John Mathews 2006) vs. the biofuel industry has 'the potential to significantly shift agriculture, forestry, environmental and fuel value chains' (RIRDC 2007);
- ❑ **Ethanol:** US ethanol from corn growing at 30% per year; Brazil the biggest exporter of ethanol from sugarcane.

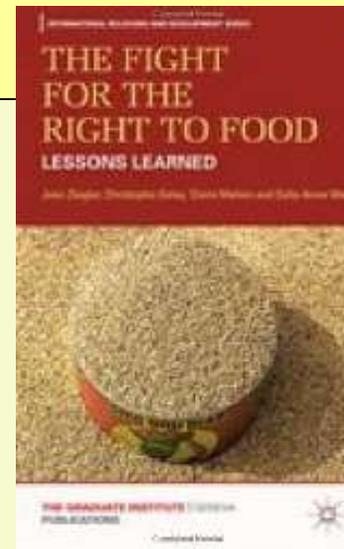


Peter Sainsbury (2016) 'Crude returns: How low oil prices have broken the relationship to food prices', online: <http://materials-risk.com/crude-returns-how-low-oil-prices-have-broken-the-relationship-to-food-prices/>

Rapid EU policy turn-around on biofuels

- The 2008 food crisis led the EU to scrap its biofuel targets (10% quota in fuels by 2020)
- UN Sec-Gen Ban Ki-Moon called for review of biofuel policies
- Strongest criticism came from UN food agencies - e.g. UN Special Rapporteur on the Right to Food, Jean Ziegler, said:
 - "Producing biofuels today is a crime against humanity"
 - "232kg of corn is needed to make 50 litres of bioethanol. A child could live on that amount of corn for a year."

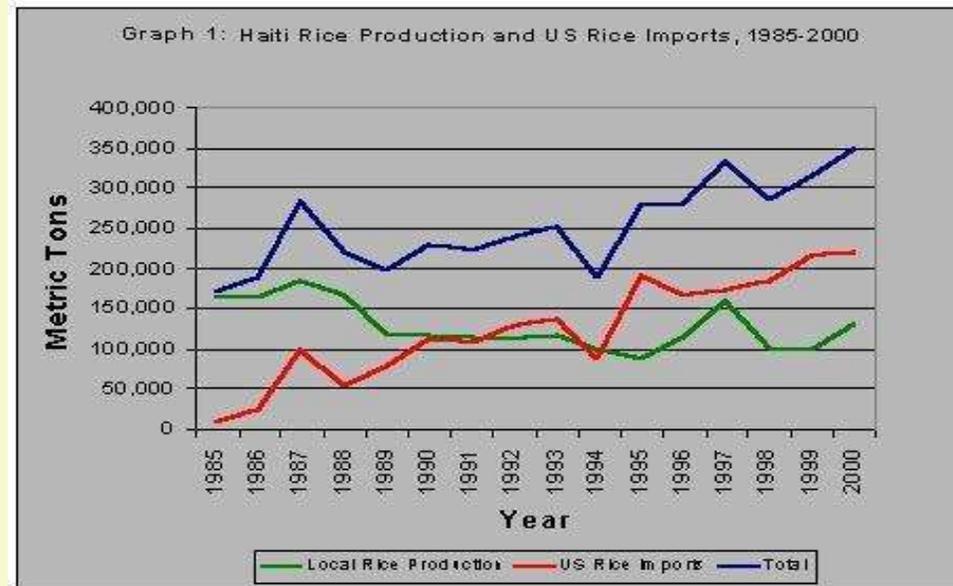
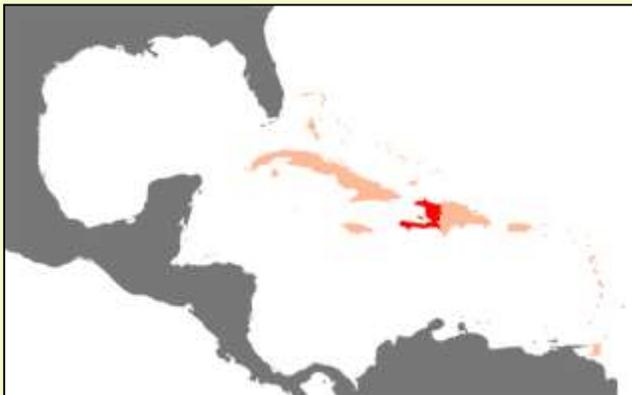
Jean Ziegler



4. Vulnerable countries (Haiti and Timor Leste)

Haiti

- ❑ Rice (with corn, cassava, millet, and fruit) central to Haitian diet; near self-sufficiency in rice until 1980s
- ❑ SAP --> tariffs fall, Haiti imports 200,000 tones of US rice, local production goes into serious decline
- ❑ Most in income poverty; rice price rises --> food crisis



Video (1'46"): The Politics of Rice in Haiti, how IMF 'free trade' mandates destroyed local rice production.
Full video here: <https://www.youtube.com/watch?v=866xSPHeGhQ>



Hunger in Haiti: Despite substantial international aid, especially after the 2010 earthquake: 'More than 44 percent of Haiti's population is undernourished' (FAO 2013)



Bill Clinton's apology to Haiti

'The United States has followed a policy .. that we rich countries that produce a lot of food should sell it to poor countries and relieve them of the burden .. It has not worked. It may have been good for some of my farmers in Arkansas, but it has not worked. It was a mistake ... it's failed everywhere it's been tried ... it also undermines a lot of the culture, the fabric of life, the sense of self-determination ... we should have continued to work to help them be self sufficient in agriculture.' (Bill Clinton, April 2010)

Qs:

1. How do low food prices create hunger?
2. How do high food prices create hunger?



Food security in Timor Leste

- History of food crises - late 1970s, 1999, 2006+;
- Conflict over agriculture before independence
World Bank, 2000: 'East Timorese ... may not support the [a privatised Agriculture Rehabilitation Project] .. [however we believe] the government should not own revenue generating enterprises, such as meat slaughterhouses, warehouse facilities, grain storage facilities, tractor pools or rural service centres. Government participation ... would inhibit private entrepreneurship'
- Most of the privatised agricultural service centres collapsed after 2002;
- World Bank and AusAID against rice growing, say that Timor Leste should import rice, focus on exports (oil palm? biofuels? coffee?).





Timor Leste's food security strategy:

- ❑ Timor Leste sought help from the FAO and Japan
- ❑ Timor Leste went on to develop its rice fields, with domestic rice production of 37,000 tonnes in 1998 (1/3 of consumption) rising to 65,000 tonnes by 2004 (about 2/3) (UNDP 2006)
- ❑ 2006-2008: political crisis and dislocation brings back serious food security problems – emergency food programs needed
- ❑ 2011: Subsidised, imported rice being commercially 'captured' and resold in Indonesia



5. Food sovereignty

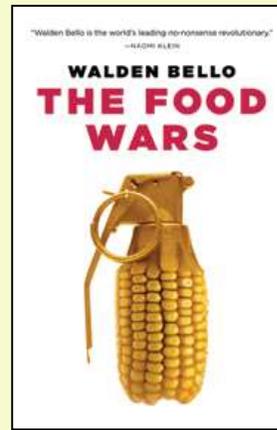
Main elements:

- ❑ stabilise domestic production
- ❑ establish local control ('sovereignty') over food supply
- ❑ develop domestic markets; export agriculture comes 2nd

Themes:

- ❑ significance of small farming and land tenure
- ❑ 'multi-functionality' of small farming
- ❑ aid agency pressure for export orientation





- ❑ 'food sovereignty reaffirms the rights of peoples to their autonomy, deciding what they wish to produce and consume. But this is not sufficient to guarantee food security, which should always be associated with social equity, ensuring access to good quality food for everyone' (Menezes 2011)
- ❑ 'food sovereignty ... necessarily means a return to protecting the food production of nations, both against the dumping of artificially cheap food and the importation of artificially expensive food' (Rosset 2009)
- ❑ 'food sovereignty [emphasizes] ... food self-sufficiency, the right of a people to determine their patterns of agricultural production [non] chemical-intensive agriculture ... equality in land distribution and agriculture ... resting mainly on small farms and cooperatives' (Bello 2008: 148)

Refs:

Bello, Walden (2008) *The Food Wars*, Verso, London

Menezes, F. (2001) 'Food Sovereignty: A Vital Requirement for food security in the context of globalization', *Development*, Vol 44 No 4, December

Rosset, Peter (2009) 'Food Sovereignty in Latin America: Confronting the 'New' Crisis', NACLA REPORT ON THE AMERICAS, May-June, online at: <http://www.acaoterra.org/IMG/pdf/Food-Sovereignty-in-Latin-America.pdf>

Food sovereignty policies - from strong states:

- **Japan** – domestic grain production only meets 40% of consumption, but law supports domestic food production
 - 'a stable supply of good-quality food at reasonable prices shall be secured ... with increase of domestic agricultural production as a basis, together with an appropriate combination with imports and stockpiles' - Article 2, 'Basic Law on Food, Agriculture and Rural Areas', Japan
- **China** – embeds 'self-sufficiency' in policy. A 2008 policy statement required overall food self-sufficiency to remain above 95%, with self-sufficiency in rice and wheat.

Gao, Shutao (2010) 'Discussion on Issues of Food Security Based on Basic Domestic Self-Sufficiency', *Asian Social Science*, Vol 6 No 11, November, 42-48

Yet **problems for small countries** in asserting food sovereignty -
economic and trade pressures ..

The role of 'multifunctional' small farming



FAO calls for "paradigm shift" towards sustainable agriculture and family farming

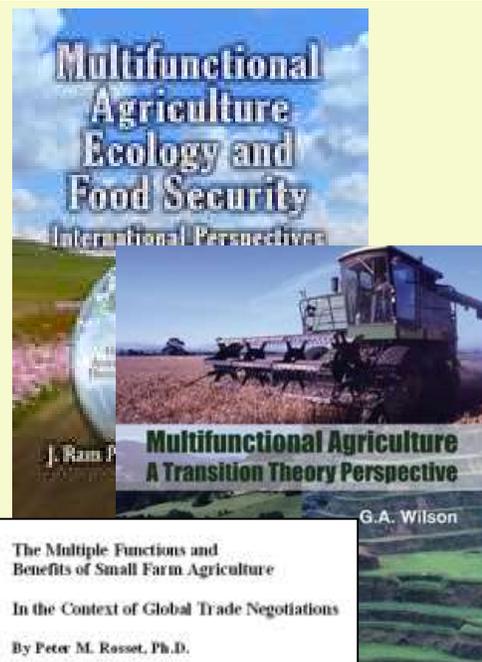
Director-General urges support for science-based options in pursuit of global food security



FAO Director-General José Graziano da Silva (r) addresses COAG prior to President Danilo Medina's (l) keynote address.

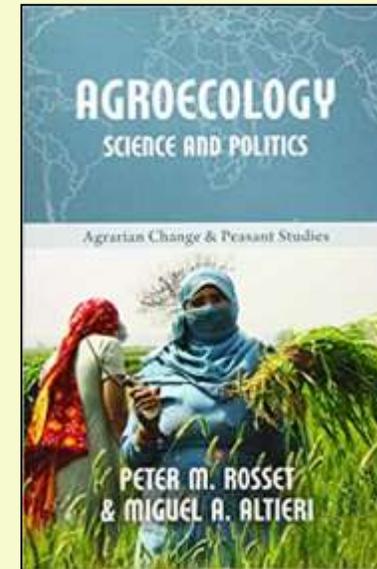
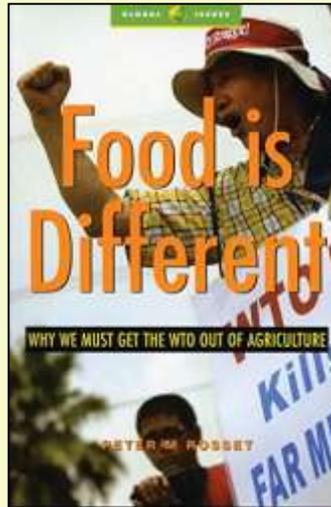
29 September 2014, Rome - Policy makers should support a broad array of approaches to overhauling global food systems, making them healthier and more sustainable while acknowledging that "we cannot rely on an input intensive model to increase production and that the solutions of the past have shown their limits," FAO Director-General José Graziano da Silva said today in his opening remarks to the 24th session of the Committee on Agriculture (COAG).

Calling for a "paradigm shift," he said that today's main challenges are to lower the use of agricultural inputs, especially water and chemicals, in order to put agriculture, forestry and fisheries on a more sustainable and productive long-term path.



"Small farms are **multifunctional** - more productive, more efficient and contribute more to economic development than large farms ... [they] make better stewards of natural resources, conserving biodiversity and safeguarding the future sustainability of agricultural production." - Peter Rosset 1999

Video (0'47"): Peter Rosset (Via Campesina & EcoSur): agro-ecology, agribusiness and the 'multi-functionality' of small farming.
Full video here: <https://www.youtube.com/watch?v=dzvAGG5gs2s>



Key features of a food sovereign approach across various sectors:

Table 1: Fields of agricultural development relevant to food security			
	Stablise domestic food production	Develop domestic produce markets	Export oriented agriculture
Aim	- local food production - food distribution - social security	- enhance productivity - enhance local incomes	- intensify productivity - develop foreign exchange income
Land	- maintain customary tenure - equitable access to land	- fuller utilisation of land - no necessary tenure implications	- register and rationalise land holdings
Technology	- access to basic inputs	- improved seeds and other inputs - diverse crops	- higher productivity in monocultures
Support structures	- local roads - basic inputs (seed, tools) - price stabilisation	- local roads - basic inputs (seed, tools) - local market facilities	- export roads - port facilities
Problems	- low emphasis on productivity - little income - impact of cheap imports	- little export income - local cash crops differ from export crops - impact of cheap imports	- undermines local food production & distribution - disrupts land tenure - environmentally damaging monoculture

From Anderson, Tim (2006) 'Food Security and Agriculture in the Australia-East Timor Relationship' in Damien Kingsbury and Michael Leach (2006) East Timor: Beyond Independence, Monash Asia Institute Press, Melbourne

Overview: food grain status and policy		
Countries	Grain status	Policy
100+ DCs: Timor Leste, Haiti, Indonesia, Philippines, many African	Food grain importers	Various
India	Surplus in grain	
China	c.2005, moved to deficit in grain	2008 policy requires 95% food self-sufficiency, 100% in rice and wheat
Grain exporters: Canada, Argentina, Australia, Vietnam, Thailand, Pakistan	Surplus in grain	Various
EU, USA	Surplus in grain	Heavy agric. Subsidies
Japan	Food grain importer (60%)	1970s law requires strong domestic production plus stockpiles

Summary:

- ❑ Globalised food problems but distinct histories
- ❑ New pressures (energy crisis, MNC trade, limited land, weak states)
- ❑ Consensus over food security but debate over the means
- ❑ Economic liberal 'food security' vs. food sovereignty
- ❑ Strong states protect their strategic interests, weak states increase their trade dependence
- ❑ Strong links between the energy and food crises: energy inputs, land and crop substitution, transport, biofuels