

Eating well in a time of rising food prices: joining up the food agenda

Tim Lang

Centre for Food Policy, City University, London

t.lang@city.ac.uk

Caroline Walker Trust 'Public Health Nutrition: Challenges for the 21st Century', Kensington Town Hall, London, November 25 2008

Summary

- A new era for food is unfolding
- A 60 years (successful) consumerist model is beginning to fail
- A new policy approach is needed
- This will be shaped by 'New Fundamentals' such as climate change, water, health
- This means PHN will become eco-nutrition

1. The New Fundamentals

New Fundamentals

- Climate change
- Fuel / oil / energy
- Water
- Land use
- Biodiversity
- Labour
- Population (9bn 2050)
- Urbanisation
- Affluence (BRICs +)
- Nutrition transition
- Healthcare costs

See:

1. T Lang Rachel Carson & City Leaders lectures: http://www.city.ac.uk/news/archive/2008/03_march/04032008_1.html;
<http://www.pan-uk.org/Projects/RCML/index.htm>
2. IAASTD (2008) report. <http://www.agassessment.org/>
3. Millstone & Lang (2008) *Atlas of Food* (2nd edition)

New Fundamentals are complex: e.g. what is land for?

- **Amenity** (health)
- **Buildings** (property)
- **Food** (consumption)
- **Fuel** (biofuel)
- **Fibre** (biomass)
- **Carbon sinks** (climate)
- **Culture** (identity)
- **Water** (aquifers)
- **Transport** (roads)
- **Biodiversity** (life)

New measures: e.g. food's impact

- Food consumption accounts for 31% of all consumption related GHG emissions

source: EC (2005) life cycle environmental impact of products [EIPRO]

- Waste from UK homes – c.30% wasted:
 - 40% cannot be recycled
 - 5.2 million tonnes of food-related packaging
 - 6.7 million tonnes of food waste

source: WRAP 2007

- Food is heavy water user:
 - UK agriculture uses 742 million m³ of water
 - Food & drink industry 155 million m³ used

source: Defra (2007) Water use in the supply chain

Food footprint (land, energy, sea-space): e.g. NW England's footprint 2000

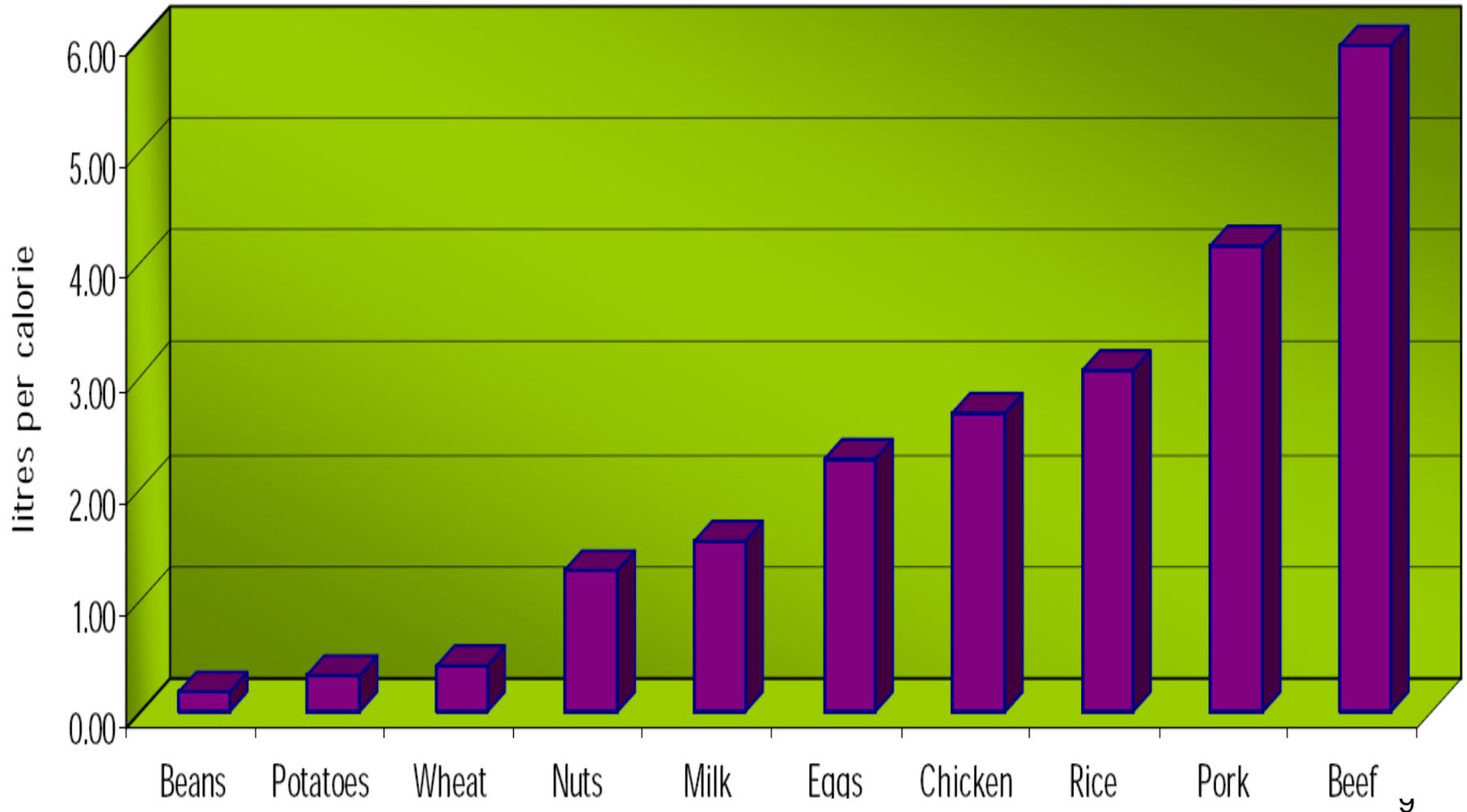
- Totalled 43 mt global hectares (gha) = 6.2 gha per resident in North West England.
- UK food and farming's footprint is up to six times the food growing area of the UK itself
- Food = highest single footprint component, estimated at 1.4 gha/per capita
 - Used 20 mt raw materials to produce 4.2 mt consumed
 - Used more than 0,5 mt packaging
- c. 1 mt of food & drink uneaten → sent to landfill

Source: Birch et al (2005). *Footprint North West*. Manchester: Action for Sustainability, University of Manchester, and Stockholm Environment Institute at York

Products' virtual water content (litres)

- glass beer (250ml) = 75
- glass milk (200ml) = 200
- glass wine (125ml) = 120
- glass apple juice (125ml) = 190
- cup coffee (125ml) = 140
- cup of tea (125ml) = 35
- slice of bread (30g) = 40
- slice of bread (30g) with cheese (10g) = 90
- 1 potato (100g) = 25
- 1 bag of potato crisps (200g) = 185
- 1 egg (40g) = 135
- 1 hamburger (150g) = 2400
- 1 cotton T-shirt (medium, 500g) = 4100
- 1 sheet A4 paper (80g/m²) = 10
- 1 pair of shoes (bovine leather) = 8000
- 1 microchip (2g) = 32

New 'narrative' emerging: eg. H₂O per calorie (health)



source: Joanne Zygmunt / Waterwise 2007

2. The global situation

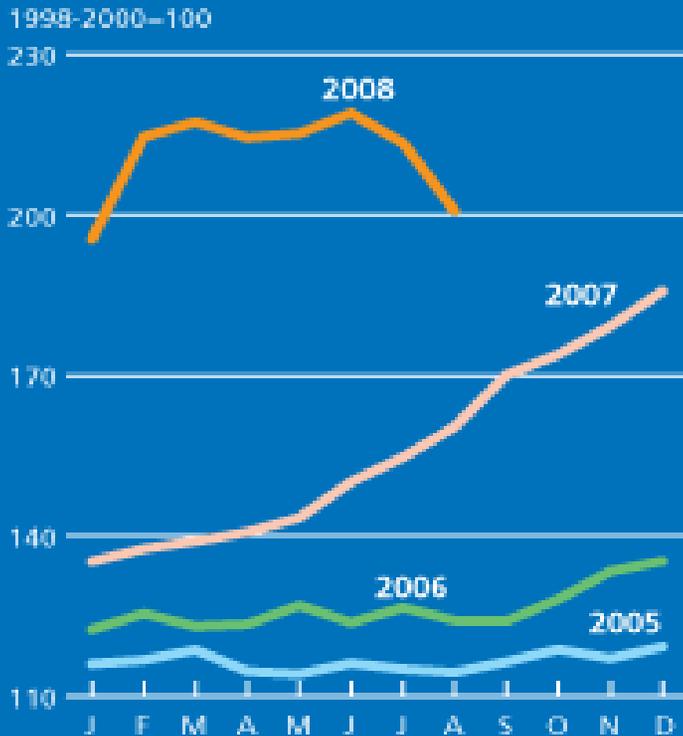
The long debate with Malthus



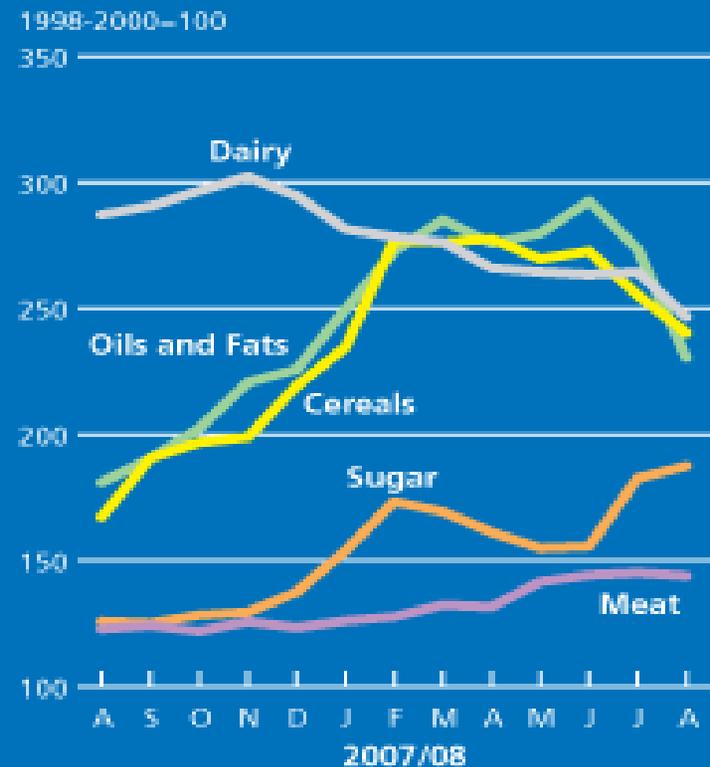
Rev. Thomas Malthus (1766-1834)
An Essay on the Principle of Population
(1798)

Prices...concentrating minds

FAO Food Price Index



Food Commodity Price Indices



Food security → Sustainable FS?

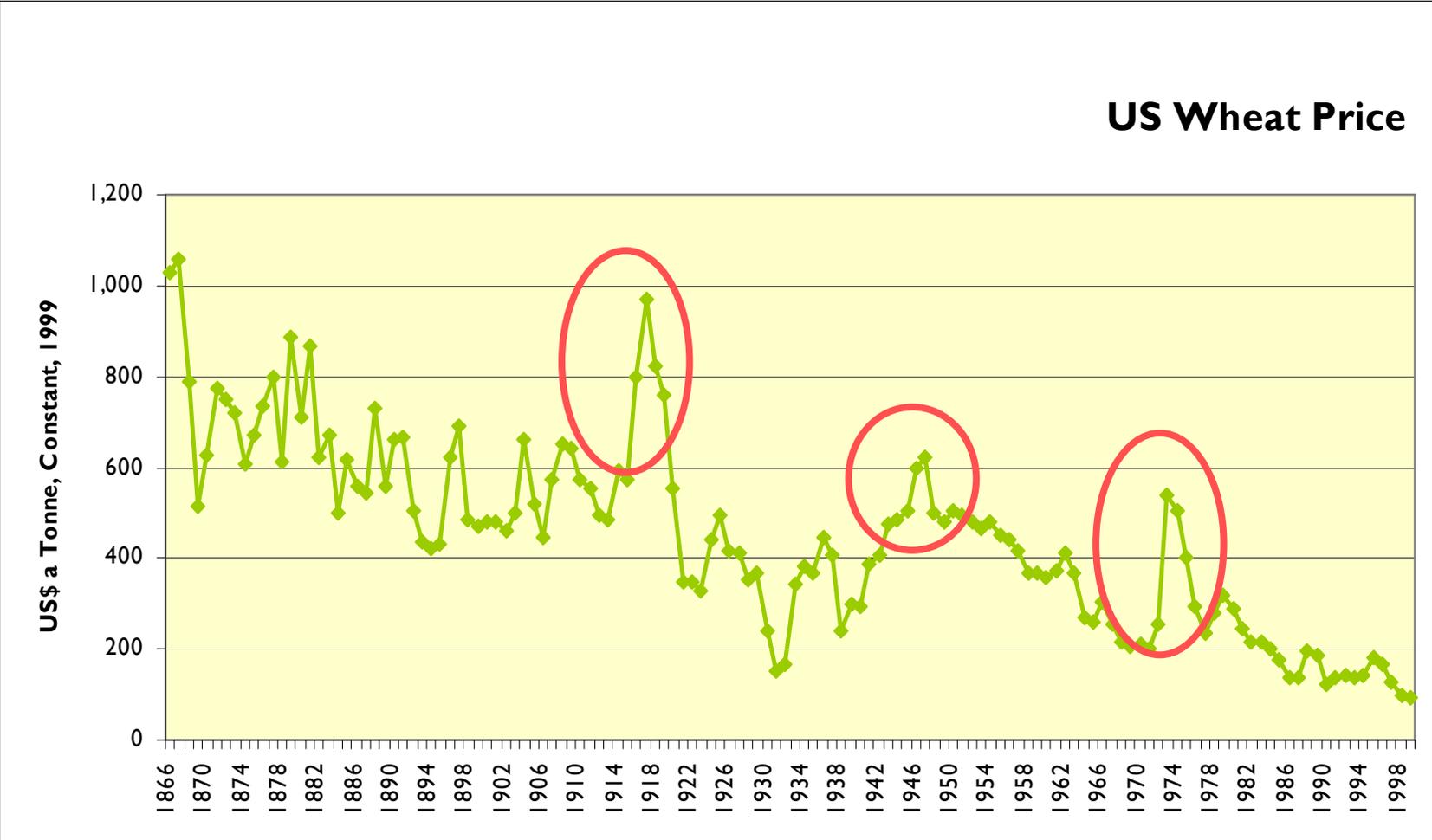
1940s vision

- Price
- Availability
- Affordability
- Access
- Waste reduction

C 21st vision

- all those plus...
- Environment
- Resource m'g't
- Quality
- Social justice
- Ethical

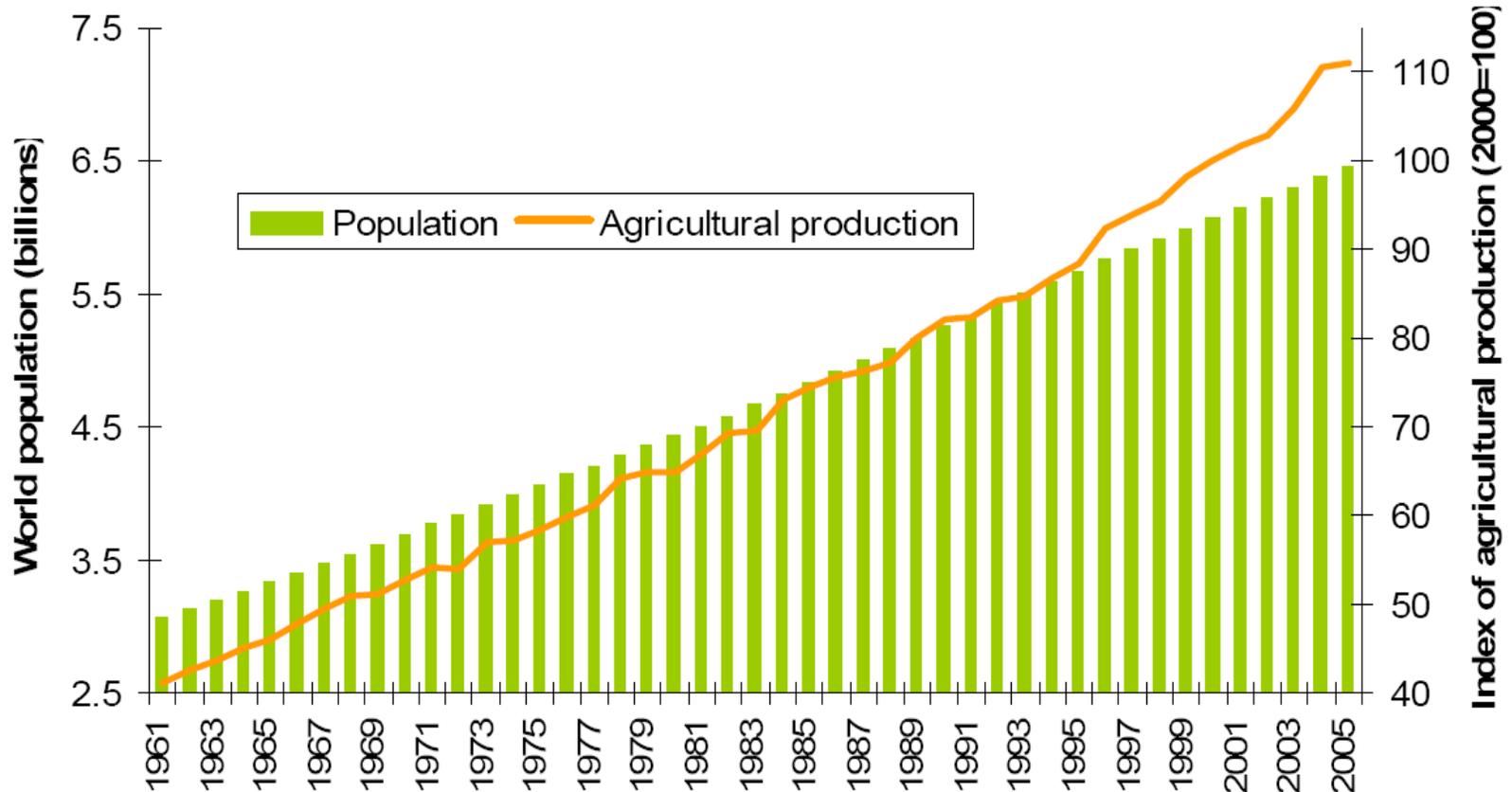
Prices fall: the long view?



Source: USDA

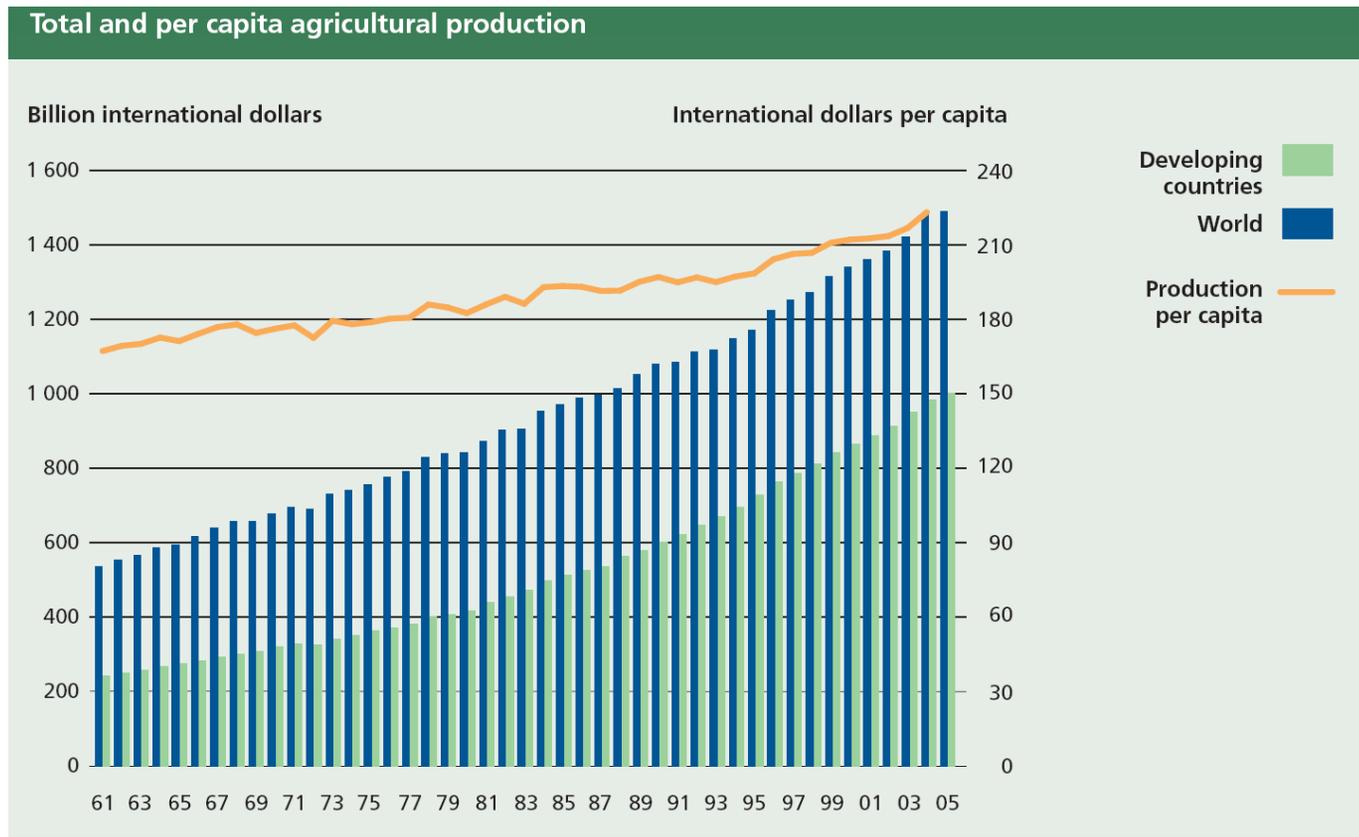
World population and agricultural production 1961-2005

source: FAO / Defra FdSec Dec 2006 fig 5.1



Global farm output

- Farm output trebled 1961-2005 (by value); = +2.3% p.a.
- Keeping ahead of population growth (1.7%p.a.)...but...
- Production growth rate *per capita* is slowing = crisis



Note: International dollars are an international commodity prices unit, average 1999–2001.
 For more information on international dollars, see <http://faostat.fao.org>.

Source: FAO, 2006h

source: FAO SOFA 2007 p120 16

Behind overall picture lie differences

Global crop output growth, 1961-2005

Increase above
population growth:

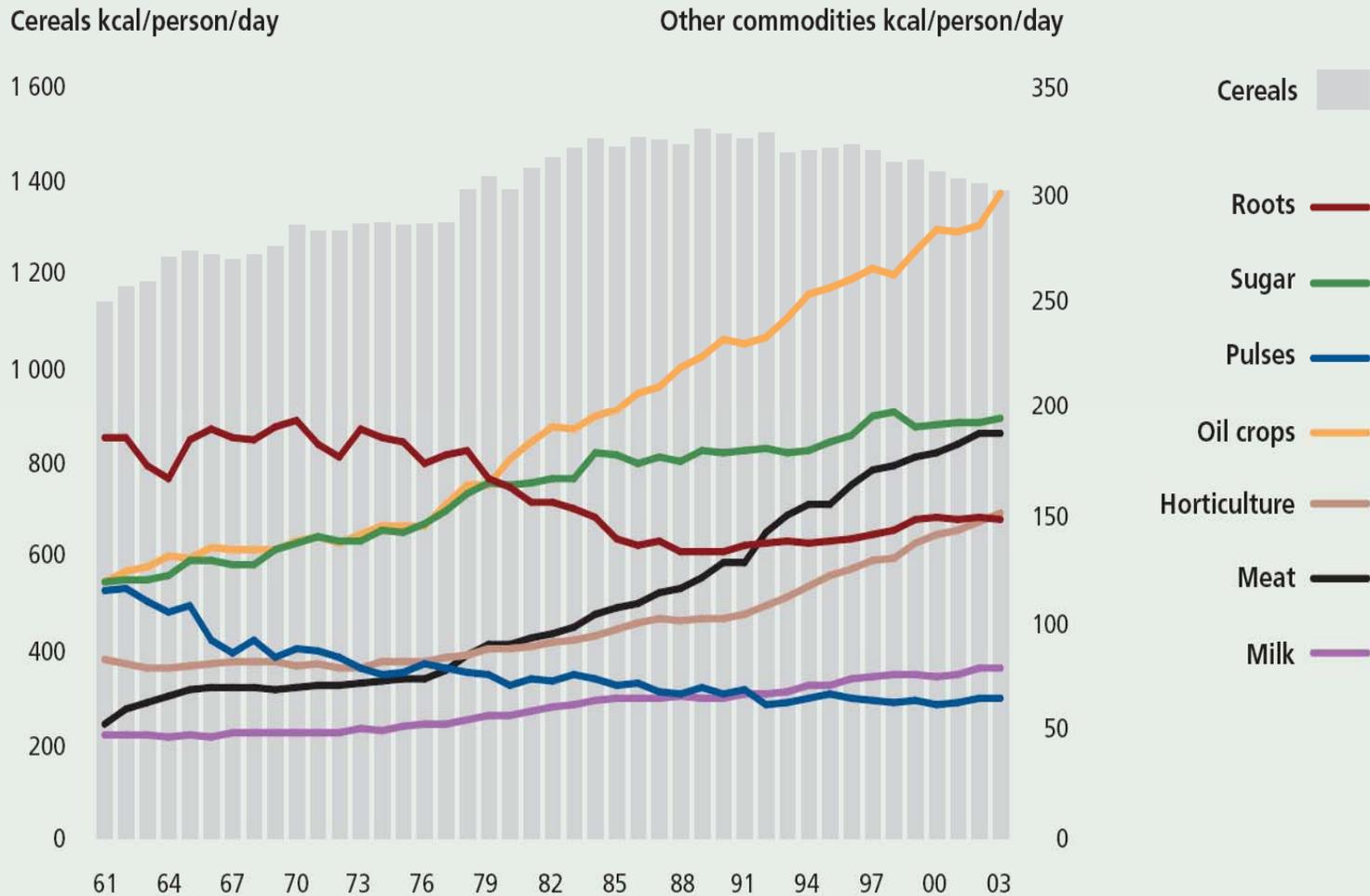
- Cereals
- Oil crops
- Sugar
- Vegetables
- Eggs
- Meat

Decline relative to
population growth:

- Pulses
- Roots
- Tubers

Production reshapes LDC diet

Consumption of different food commodities in developing countries

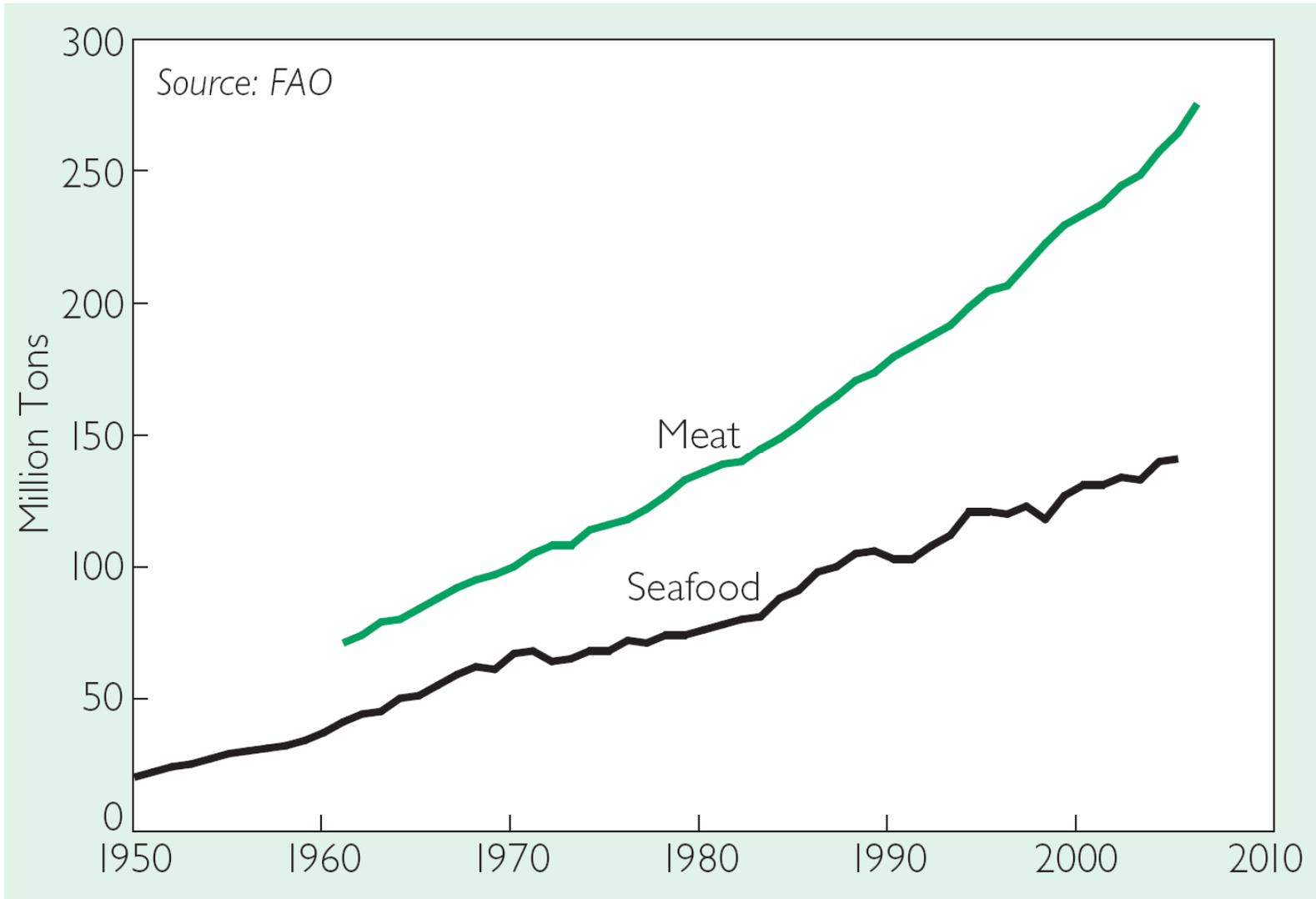


source: FAO SOFA 2007 p127

Meat production....

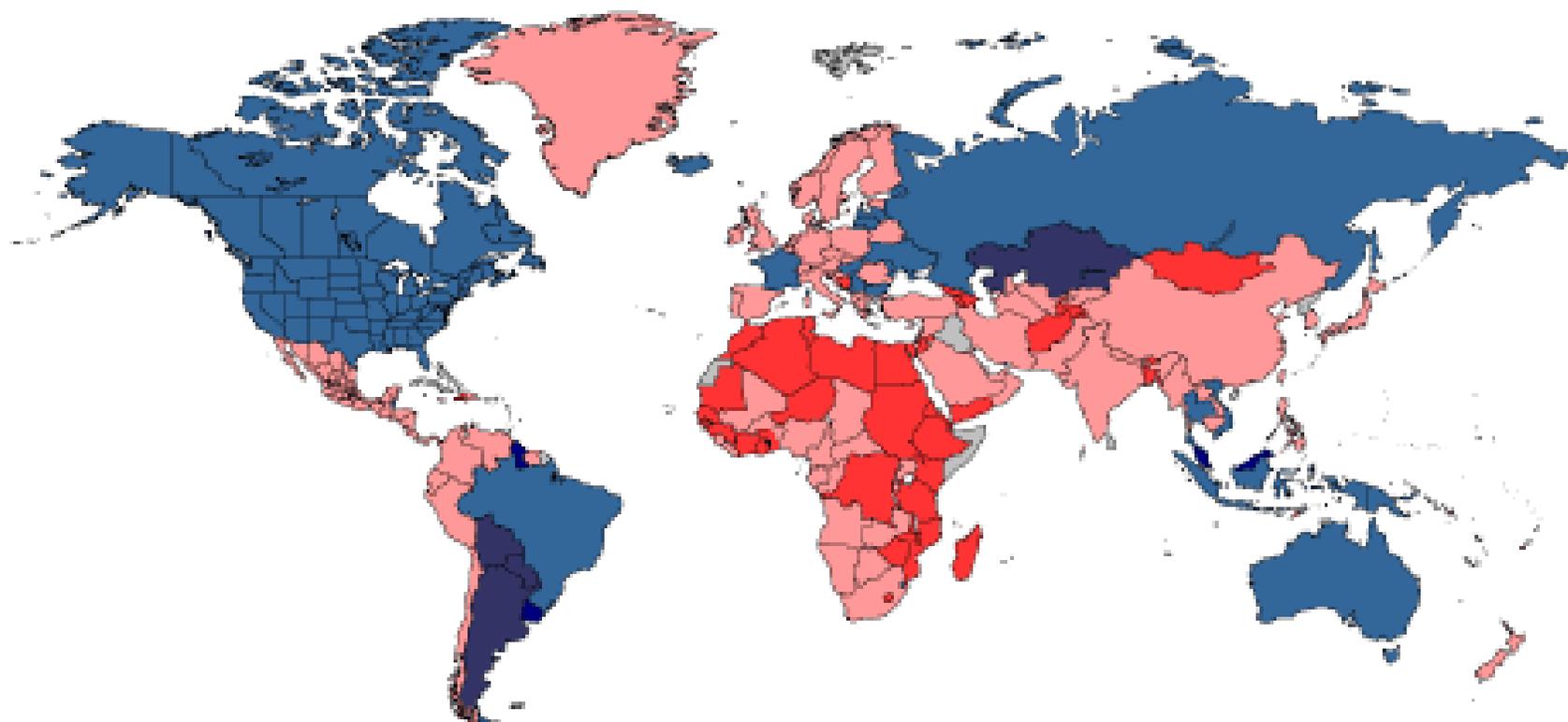
- Livestock = 40% of value of agric production
 - 50% in Developed Countries (DCs)
 - 30% in Less Developed Countries (LDCs)
- LDC meat production: 27mt (1970) → 147mt (2005)
- Global meat demand rises 50%+ by 2030
- Livestock is greatest agric land user and Greenhouse Gas (GHG) emitter

Meat & fish: how much more?



Source: FAO/Worldwatch 2008

2007 - 2008 IMPACT OF PROJECTED FOOD PRICE INCREASES ON TRADE BALANCES



- Large losers (trade balance worsening $> 1\%$ 2005 GDP)
- Moderate losers (trade balance worsening $< 1\%$ 2005 GDP)
- Moderate gainers (trade balance improving $< 1\%$ 2005 GDP)
- Large gainers (trade balance improving $> 1\%$ 2005 GDP)
- No data

SOURCE: The World Bank

3. Implications

Policy paradigm under stress

- OLD PARADIGM (1940s) focus on output:
 - Science + Capital + Distribution = Progress
 - Goal: Output → Cost reduction → Health
 - Success!?
- ...but...2000s focus on sustainability too:
 - Oil/ energy reliance (CO₂) → Climate Change
 - Malnutrition up again
 - Food insecurity + inequalities (in/between states)
 - Cost externalities: health + ecology + societal

i. State's role heightened (again)

- End of the productionist paradigm
 - Boyd Orr *et al* 1930/40s
- Old policy equation running out of steam
 - Capital + Science + Distribution → Health
- Policy focus is shifting (again):
 - agriculture (1940s) → retail (1970s) → 'the consumer' (2000s)
- State shift: from National → Multilevel
- Rise of consumerism / expectations

Tri-partite dynamic model: competing food governance

State

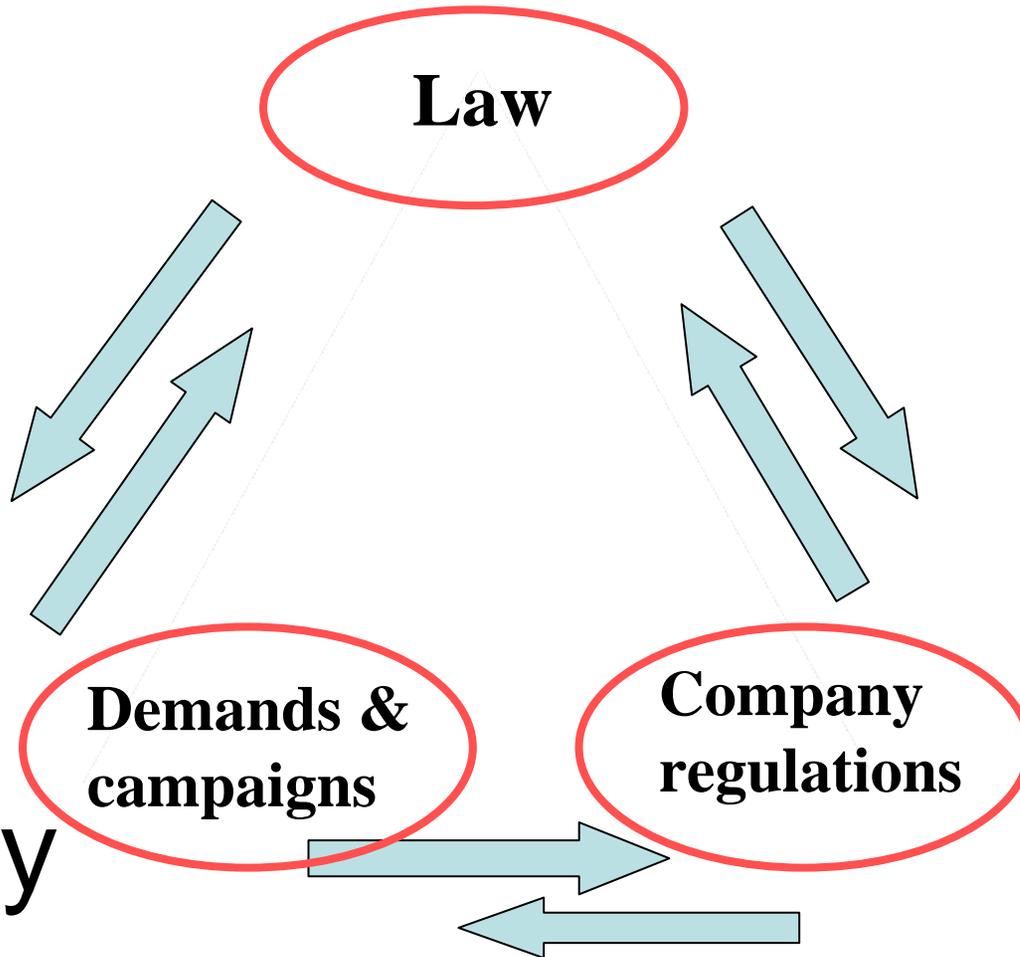
Law

**Civil
society**

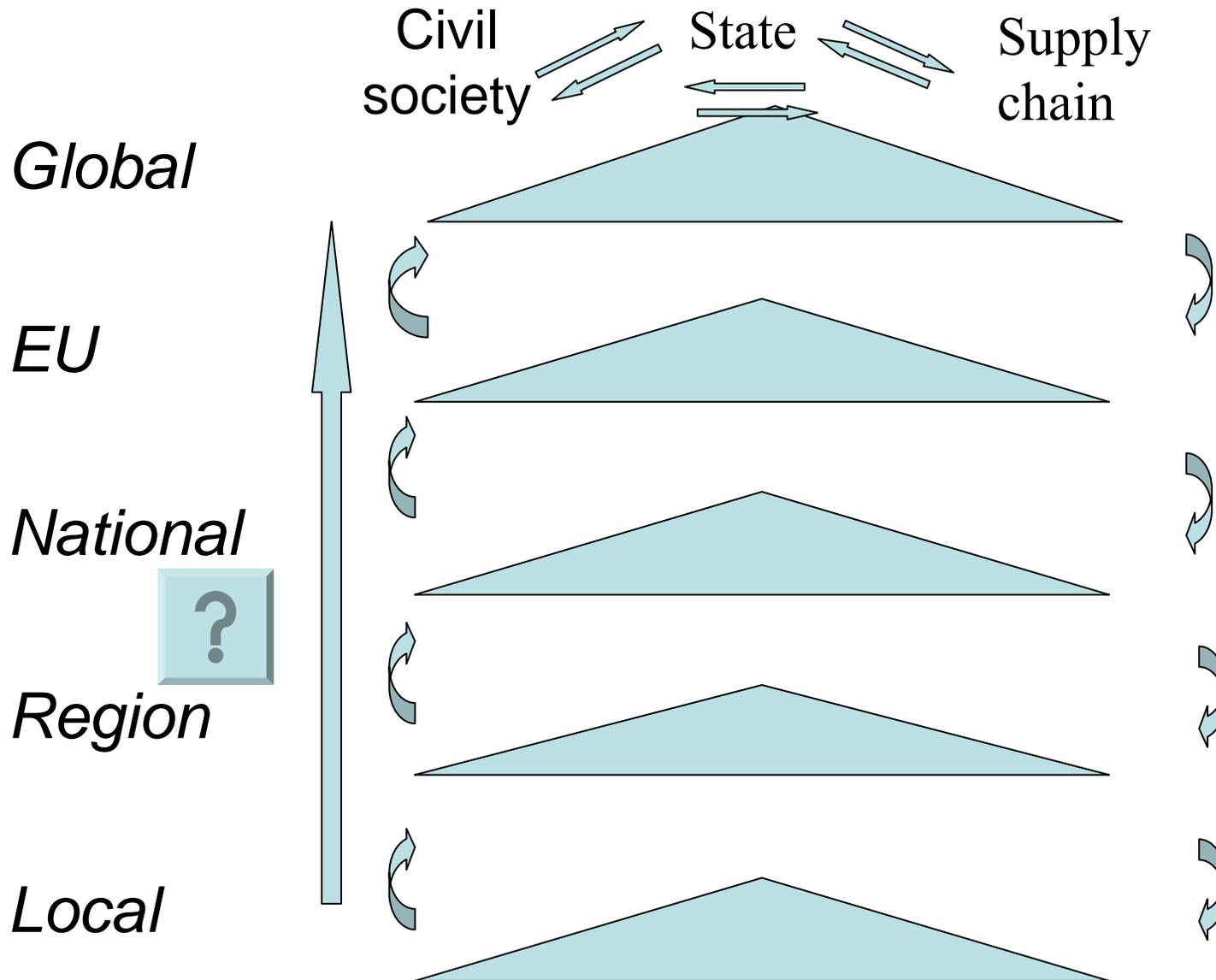
**Demands &
campaigns**

**Company
regulations**

**Supply
chain**



...plus the complexity of multi-level governance



ii. Power shift in food value-added chain, C19-C21

<i>PERIOD</i>	<i>FARMING</i>	<i>MANU-FACTURE</i>	<i>WHOLE-SALE</i>	<i>RETAIL</i>	<i>FOOD-SERVICE</i>
≤ 1900	<u>Dominant</u>	Minor	Major in a few trades	Very Minor	<u>Dominant</u>
1900 1950	Declining (but WW2)	<u>Dominant</u>	Major in many trades	Minor	Declining (but WW2)
1960 1970	Rebuilding (CAP!)	<u>Dominant</u>	<u>Dominant</u>	Emerging	Latent
1980 2000s	Declining	Declining	Rapidly Declining	<u>Dominant</u>	Emerging
2000s- ??	Returning	Uncertain	Minor	<u>Dominant</u>	<u>Emerging</u>

adapted from: C. von Schirach-Szmigiel (2005) “Who is in Power Today and Tomorrow in the Food System”, keynote speech to the *Policy and Competitiveness in a Changing Global Food Industry conference*, USDA Economic Research Service, Washington DC, April 28

iii. What is a sustainable food system? Clearly not ours but what?

LESS OF...?

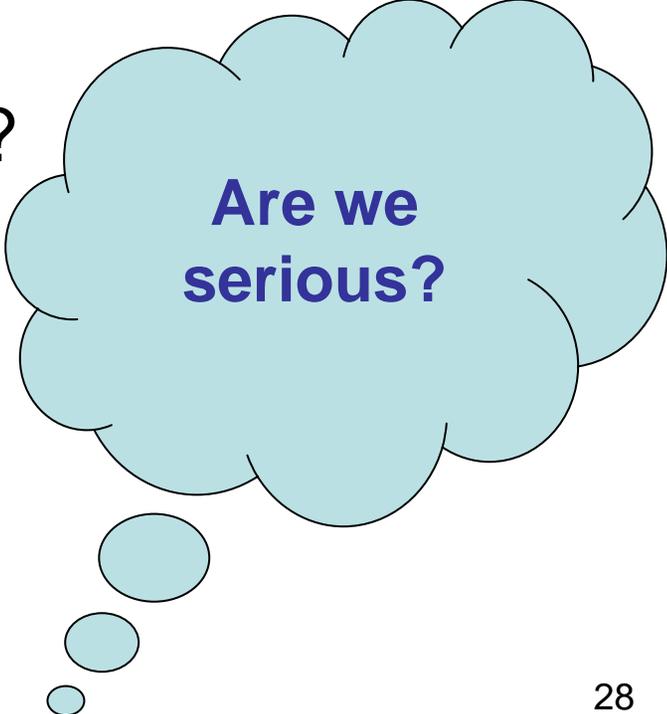
- Less consumption, not more
- Less meat & dairy?
- Less energy?

MORE OF....?

- More seasonal?
- More local?
- More grains?

OCCASIONAL?

- Treats?



Are we serious?

Example of why: consumers juggle competing appeals, e.g. fish

<i>Advice to eat</i>	<i>More</i>	<i>Less</i>	<i>Differently</i>
<i>Source</i>	Nutrition	Environment	NGOs
<i>Focus</i>	Omega 3; 2 portions (1 oily)	Stocks; aquaculture no alternative	Pragmatics
<i>Data sources include</i>	FSA, WHO	FAO (SOFIA), RCEP, Pew	MSC, organics
<i>Problem raised</i>	Dev't vs less Dev't	Jobs	Standards
<i>EU role</i>	Eurodiet	No but CFP	link DG Sanco-Agri

NGOs fill the gap about what do do?

e.g. Sustain on nutrition vs sustainable vs safety

source: Sustain (2005) Like shooting fish in a barrel www.sustainweb.org

<i>Fish species</i>	<i>Oily?</i>	<i>Omega 3 per 100g</i>	<i>Sustainable ?</i>	<i>Contaminated ?</i>
Sardines	yes	2.02	yes	no
Kippers	yes	1.83	yes	no
Trout	yes	1.27	yes	no
Mussels	yes	0.66	yes	no
Herring	yes	0.6	yes	no
Cod (pacific)	no	0	no	no
Monkfish	no	0	no	no
Salmon (farmed)	yes	1.85	no	yes
Marlin	no	0	no	yes
Plaice	no	0	no	no

Omni-Standards (the jigsaw)

Quality:

- Fresh (time)
- Localness
- Seasonality

Social values:

- Animal welfare
- Fair trade
- Working conditions
- Cost internalis'n

Environmental:

- Climate change
- Water
- Land
- Biodiversity
- Sourcing

Health:

- Safety
- Nutrition
- Cultural

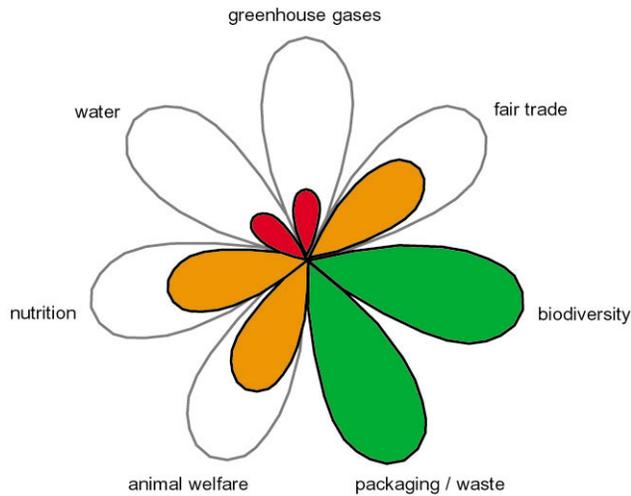
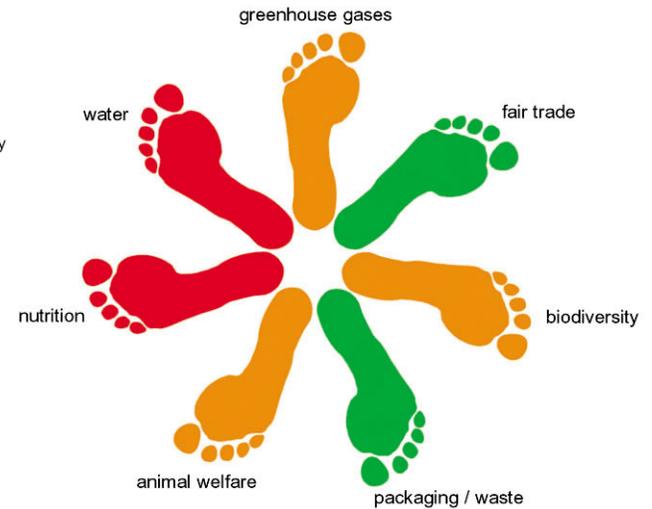
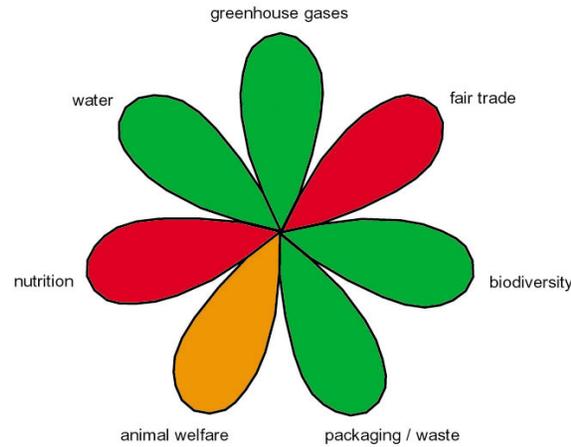
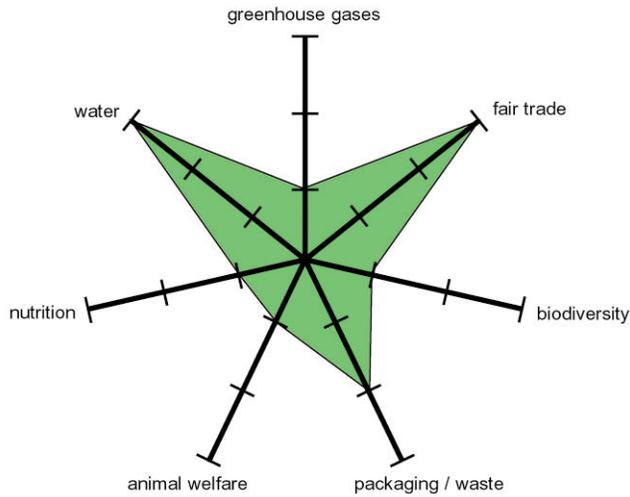
Contenders – more detail (1)

<i>Issue</i>	<i>Omni-standard</i>	<i>Indicator(s)</i>	<i>Agreement?</i>
Quality	Fresh	Time pick to sale	'consume by' not enough
	Local + seasonal	30/50 mile?	No
	Sustainable source	various	Some (e.g.fish)
Social values	Animal welfare	Various	No but emerging
	Fair trade	FLO, FTFd	Yes
	Work conditions	ETI, ILO	Yes
	Cost internalis'n	Do-able but...	No

Contenders – more detail (2)

<i>Issue</i>	<i>Omni-standard</i>	<i>Indicator(s)?</i>	<i>Agreement?</i>
Environment	Climate change	GHGe	Emerging (carbon labels)
	Water	Embedded H ₂ O	Emerging
	Land use	Eco footprint	Emerging
	Biodiversity	Many	No for food
	Health	Safety	Pathogens, & contaminants
	Nutrition	Macro nutrients	No (GDA vs traffic lights)
	Cultural	Emerging on children (TV ads)	No

Could complexity be reached in a label + traffic lights...Do we want it? Sustain



Conclusions

New world emerging (big picture)

- Food policy (like finance!) has entered uncharted territory
- There are no simple levers of governance (tripartite food governance)
- ...but governments will be more central (again)
- Food highlights relationship of people/culture to land and environment

New world emerging for PHN

- All this affects Public Health Nutrition)
- New metrics / rules:
 - Not just what to eat or how much ...but also..
 - how produced?
 - Carbon footprint?
 - Ecological space?
 - Global/Euro/UK distribution?
 - Social rationing?

Challenges for all of us

- Government – to engage
- Supply chain - to collaborate while remaining competitive
- Consumers – to change (rich consume less, poor more, all better)
- **ALL THIS MORE RAPIDLY THAN THE FOOD SYSTEM HAS RESTRUCTURED IN MODERN TIMES (EXCEPT IN WAR)**

Thanks!

t.lang@city.ac.uk