Food ethics: it's more than the mileage.

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Five reasons to go local

1. A belief that local supply chains are socially and economically beneficial

'Go local is the key'

says Jules Pretty

2. Anti globalisation viewpoint

3. The 'We could do that here' viewpoint.

- Father in law – '*Why do we import all that coal / slate/ potato/ lamb when we can produce it at home?*'

4. The environmental argument

5. 'Non tariff trade barriers' or 'protectionism'.

'Grow local, buy local, eat local'.

'Y Tir' – the newspaper of the Farmers Union of Wales, November 2005.

The Independent 24 December 2005.

How far has your Christmas dinner travelled?

According to the Soil Association, most of the meat and vegetables on the average Christmas dinner plate will be cheap imports. The turkey may have come from Norfolk, but your carrots are likely to have come from Morocco, the crackers from China and the Brussels sprouts from the Netherlands. When you add in cabernet sauvignon from Chile, cranberries from the US and runner beans from Guatemala and assorted goods, the total "food miles" bill comes to 43,674. The Soil Association estimates that 12 British farmers are going out of business every day because they cannot compete with cut-price foreign goods.

The transportation by air of 200g of Chilean grapes will generate 1.5kg (3.3lb) of greenhouse gas – equivalent to leaving a lightbulb on all weekend. But, while buying locally sourced food could save Britain £2.1bn in environmental and congestion costs, it could double the average bill because of the higher prices charged by small and organic producers.

Maxine Frith

Text from The Independent article

'According to the Soil Association, most of the meat and vegetables on the average Christmas dinner plate will be cheap imports…your carrots are likely to have come from Morocco, the crackers from China and the Brussels sprouts from the Netherlands…

….The Soil Association estimates that 12 British Farmers are going out of business every day because they cannot compete with cut-price foreign goods…

…buying locally sourced food could save Britain £2.1bn in environmental and congestion costs…..'

Deliberately provocative statement

- Very few of the advocates of local food actually have minimising climate change, or even environmental damage in general, as their primary objective when advocating local food systems.

- Rather they are using the climate change issue as support for their real primary viewpoints which are complex and varied.

TEST: If I could bring you your food without emitting greenhouses gases (e.g. neo sailing ships) would you change your support for local food?

Cutty Sark' by Montague Dawson

Environmentally and socially aware citizens would seek to minimise the overall adverse impact of the food system – and not just the food miles.

They would also seek to maximise the benefits of the food system.

To assume 'local' is always best in the absence of evidence is a leap of faith.

Conceptual world – economic systems

- The conceptual world is composed of three nation states (Zog, Anglia & Comry). Each nation state has 9 fields each producing one of the three crops

- Citizens of these States need all three food items for a balanced diet.

- Between them the three States produce enough food to feed the citizens.

- The nation states engage in trade. The trade between any 2 states leads to the emission of 1 unit of greenhouse gas per year.

Conceptual world – natural systems

- Three food items: carrots, wheat, lamb

- The growing of each food item is associated with one particular environmental impact, the severity of which varies with local soil and weather conditions.

- Carrot production can lead to soil erosion (high, medium, lo)

- Wheat production can lead to N leaching (high, medium, lo)

- Lamb production can lead to greenhouse gas production (high, medium, low)

Conceptual world at time zero

Zog – Carrots only

1	1	2
1	2	1
1	1	1

Anglia – wheat only

1	1	1
1	1	1
2	2	1

Comry - lamb only

2	1	1
2	1	1
2	1	1

ENVIRONMENTAL IMPACT

Soil erosion =   11

N leaching =   11

Gas emission = 12

Trade =   3

TOTAL =   36

Conceptual world after local food chain initiative

Zog - everything

1	2	2
1	3	3
1	1	2

Anglia - everything

3	2	1
1	1	1
2	2	3

Comry - everything

3	3	1
2	1	2
2	1	1

ENVIRONMENTAL IMPACT

Soil erosion =   17

N leaching =   14

Gas emission = 17

Trade =   0

TOTAL =   44

Is such a model likely?

Soil carbon in Wales (t/ha)
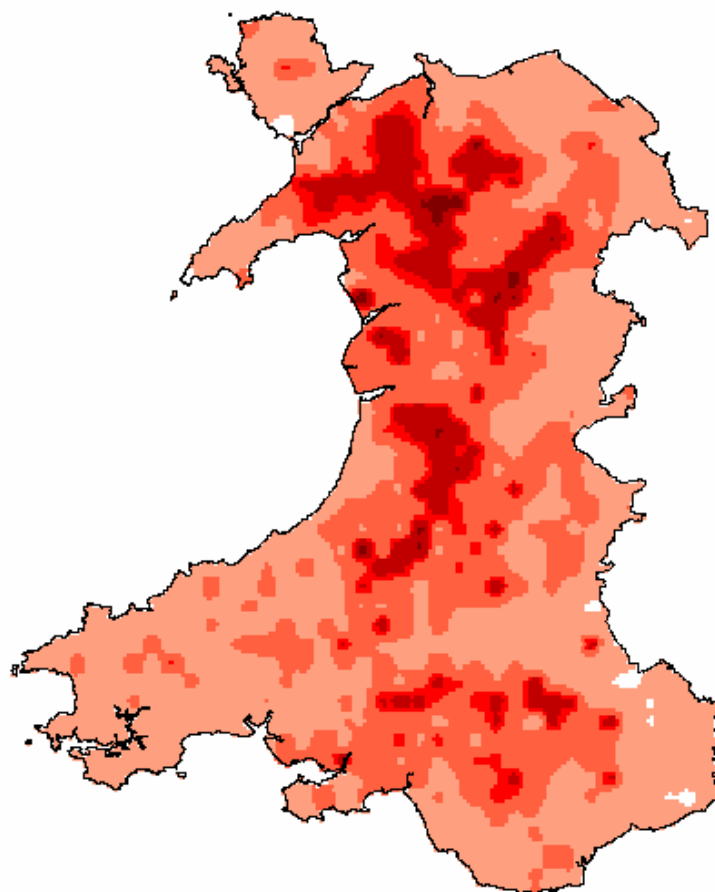

Soil C (Grid data) (t/ha)
- 0 - 39
- 40 - 79
- 80 - 119
- 120 - 139
- 140 - 179
- 180 - 219
- 220 - 260
- No Data
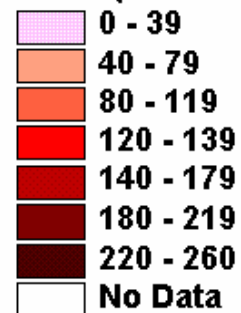
Carbon in vegetation is mostly less than 10t/ha

40   0   40   80 Miles

Regional distribution of average emissions of CO_2-equivalents from soils, normalised by the area of agricultural land in the NUTS 2 regions (Freibauer 2003).

Agricultural soils, emission of CO_2-equivalents
Mg^{-1} ha^{-1} yr^{-1} CO_2-equ.

- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 6
- >6
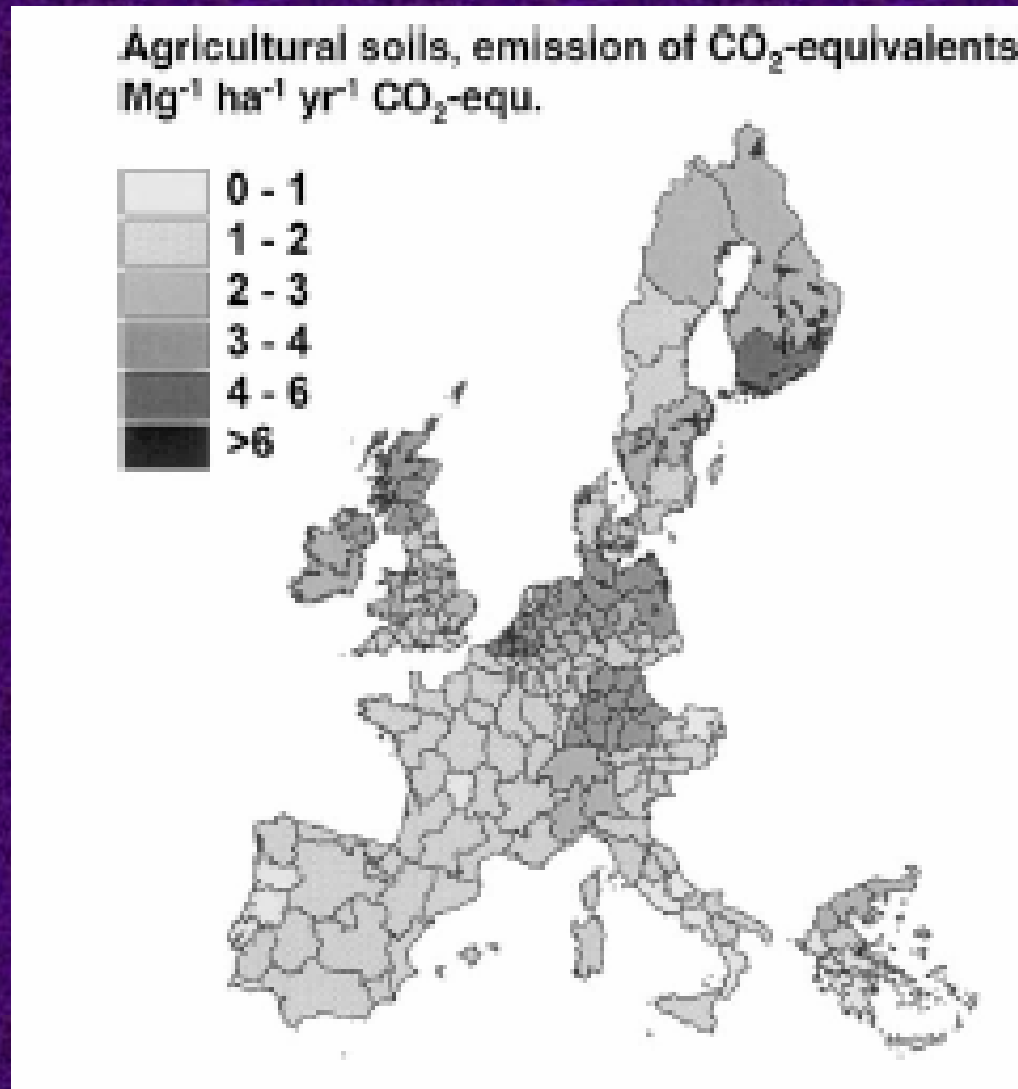
Average emissions of CO$_2$-equivalents per hectare from agricultural ecosystems in Europe (Freibauer 2003).
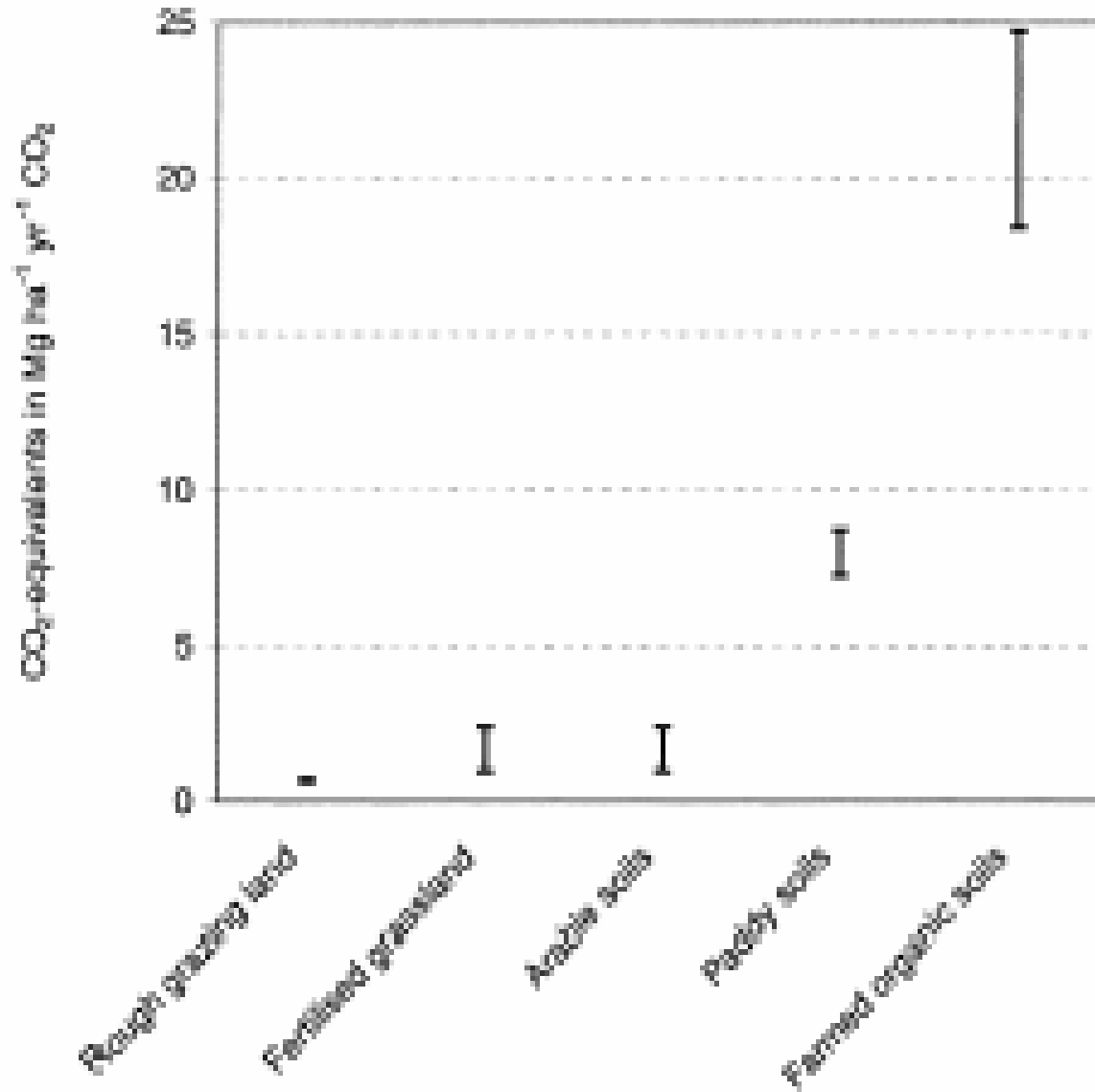
CO$_2$ Efflux $\mu mol.m^{-2}.s^{-1}$ (1 SEM) across 3 UK regions in August 2005

Crop	N	Lincolnshire	N	Worcestershire	N	Anglesey
Brassica	45	4.53 (0.58)	45	2.98 (0.25)	45	5.26 (0.26)
Salad	45	4.26 (0.43)	54	3.56 (0.33)		
Vining Peas	45	2.44 (0.22)	54	4.79 (0.51)		

So there is enough environmental variation to make the calculations about greenhouse gas emissions from land non-trivial.

Local may not always be best…..

…..it depends on the crop, manner of production, and method of transport.
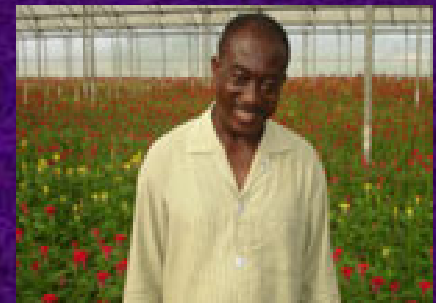
We don't know the answers.

More than greenhouse gas emissions

The same sort of arguments apply to:

- Soil erosion
- Water use
- Water pollution
- Visual landscape
- Biodiversity
- Hazards from pesticides

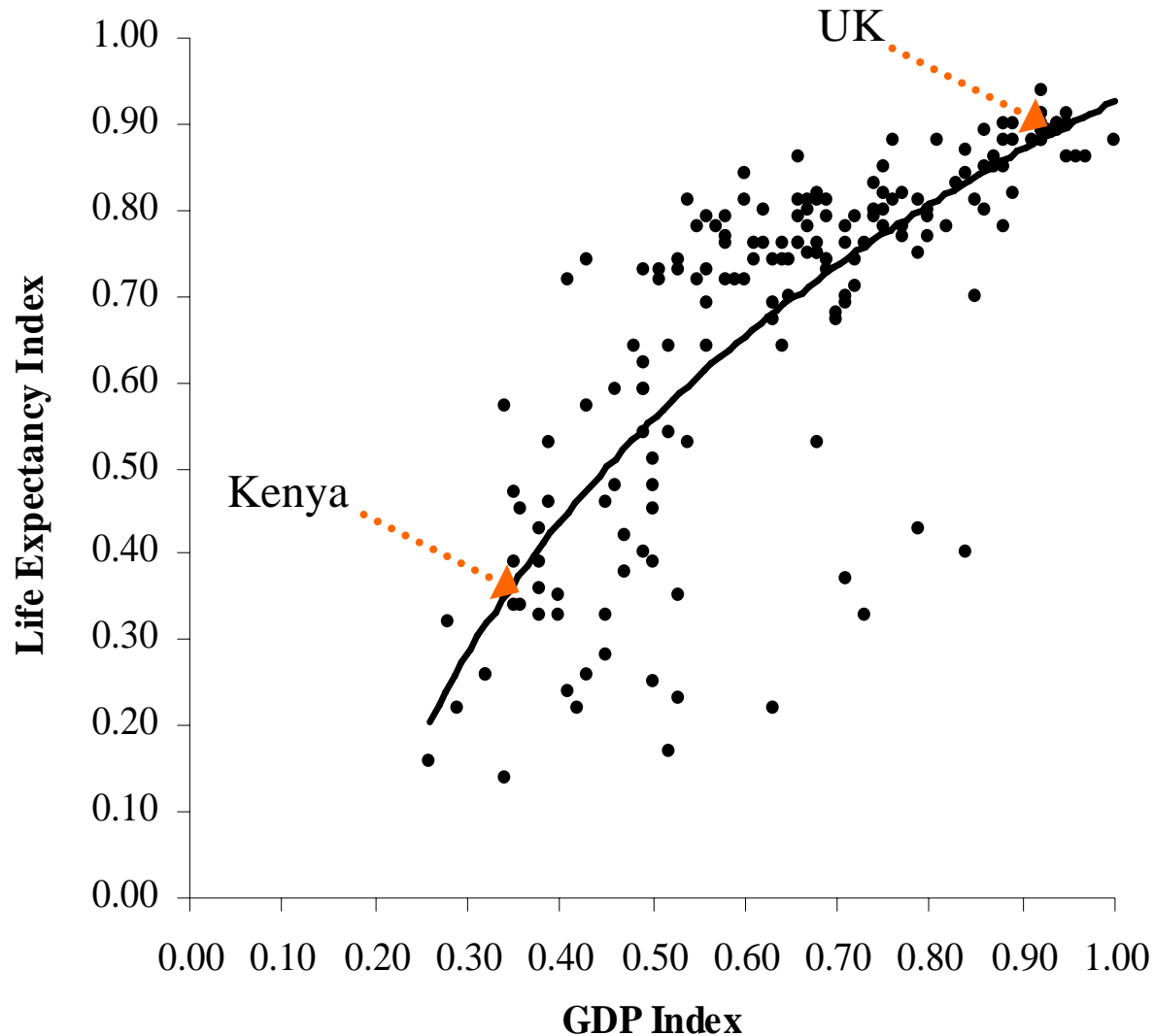And that is just the natural environment, what about:

- Economics
- Health & wellbeing
- Social welfare

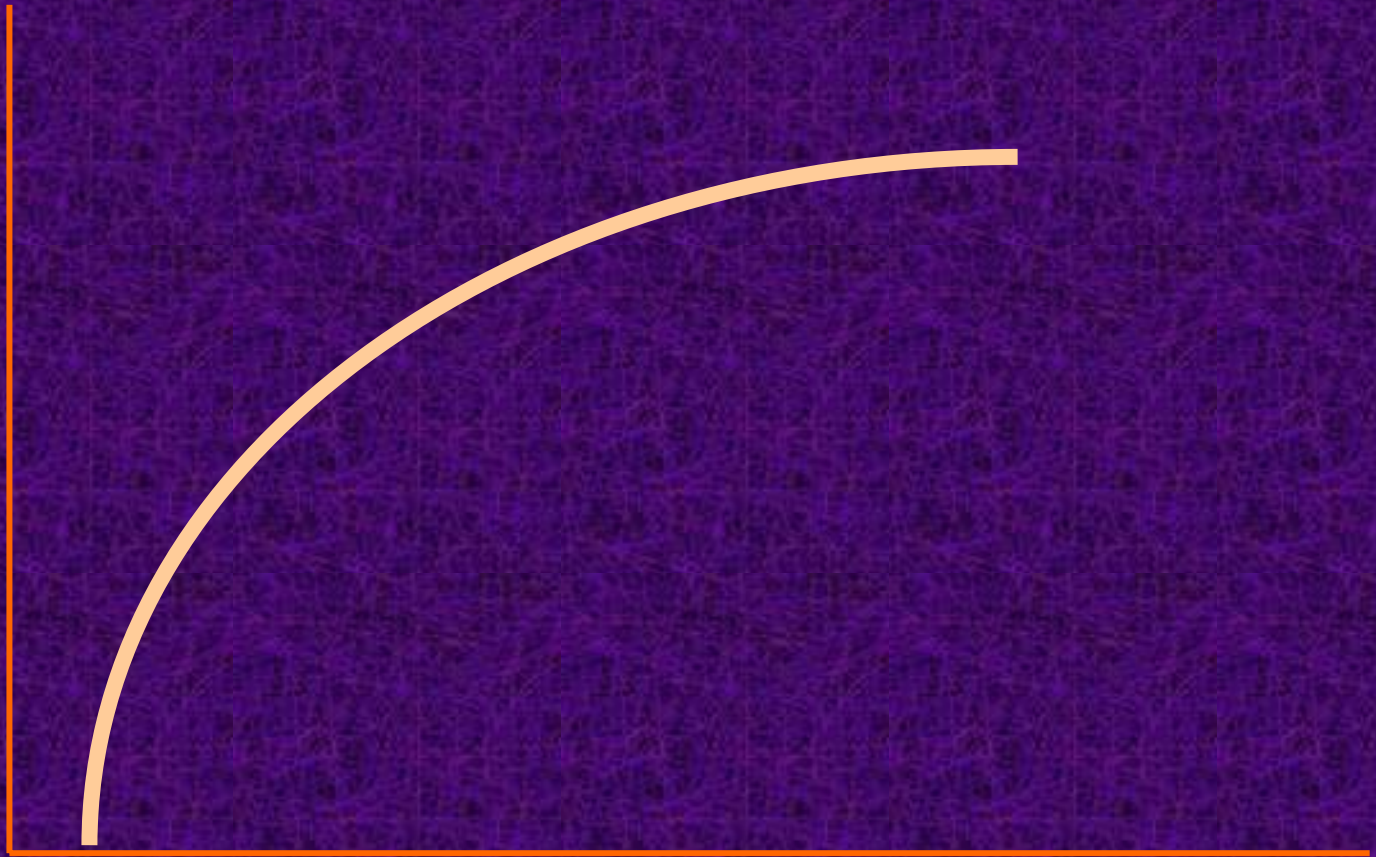# Relationship between life expectancy and GDP across nations (data from UNDP 2003. *Human Development Report 2003.* Graph compiled by Barry Hounsome)

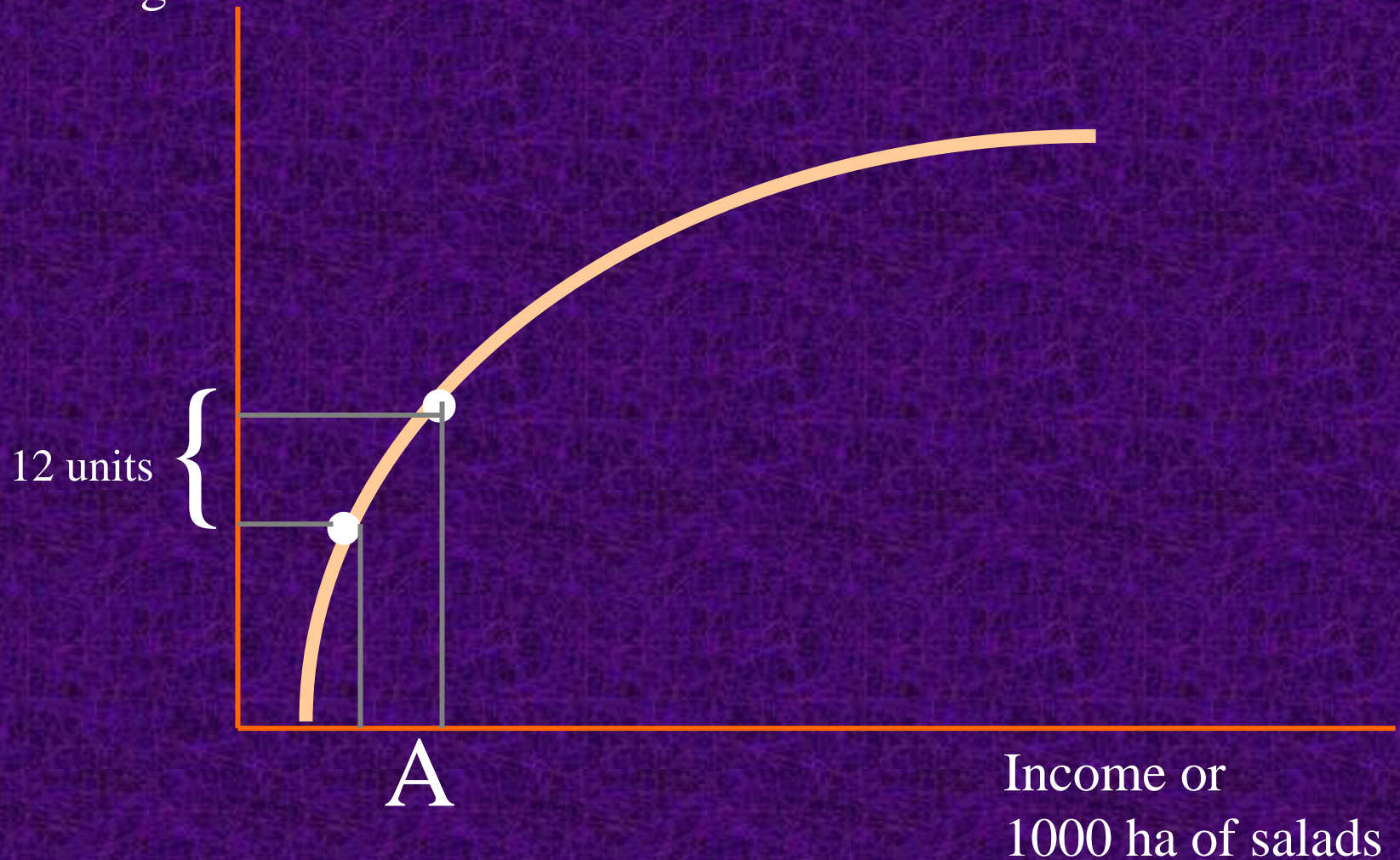# A 1000 Ha of lettuce has different social benefits in different places.

Well being

Income or
1000 ha of salads

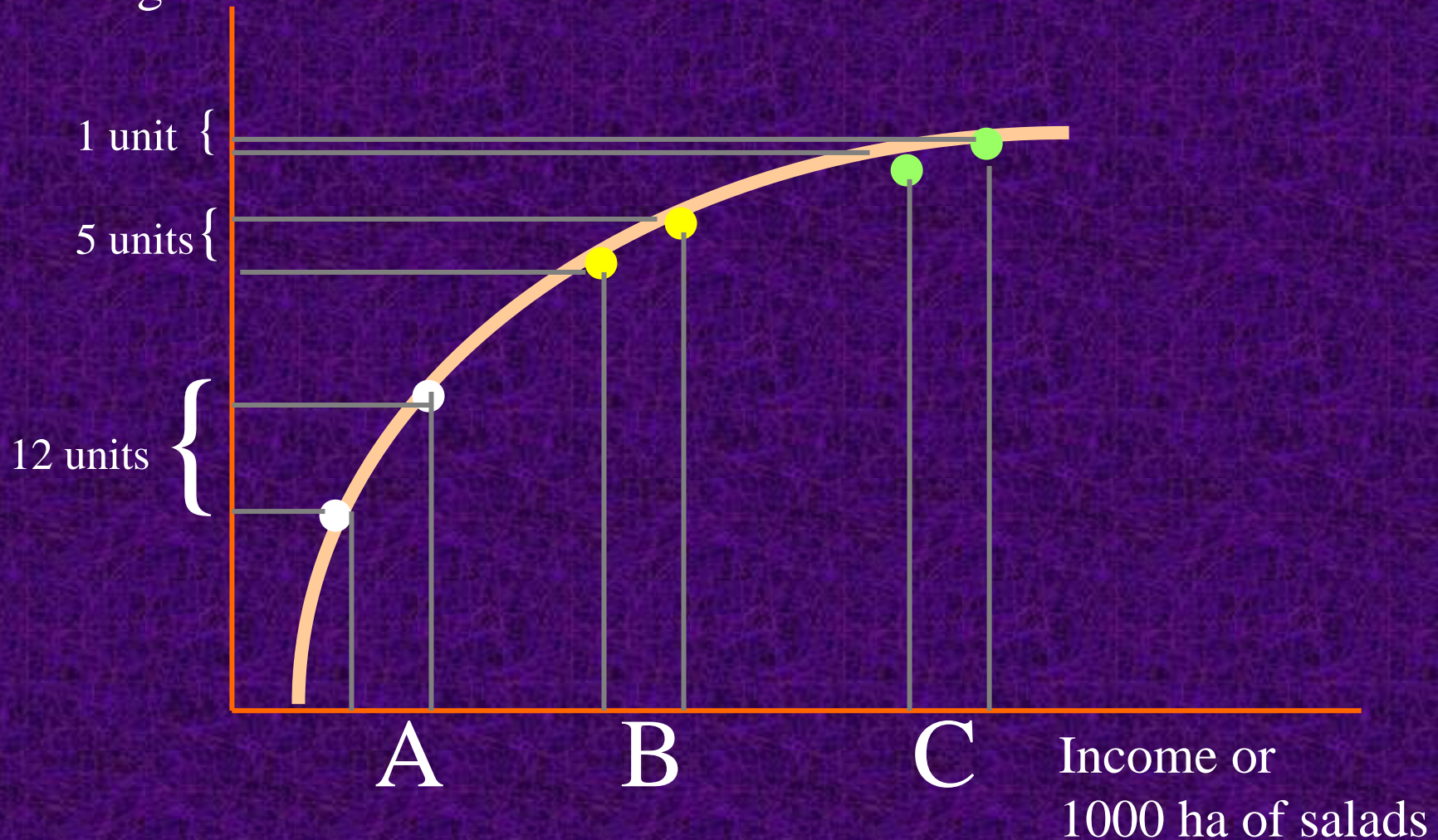# A 1000 Ha of lettuce has different social benefits in different places

Well being

12 units {

A

Income or
1000 ha of salads

A 1000 Ha of lettuce has different social benefits in different places

Ethical food choice has to be about multiple criteria across the whole food chain

Criteria	Location A	Location B
Greenhouse emissions from transport	Hi	Lo
Greenhouse gas emissions from soil	Med	Hi
Soil erosion	Med	Lo
Pesticide hazard	Hi	HI
Employee health	Hi	Med
Employee income	Med	Hi
Landscape	Lo	Lo

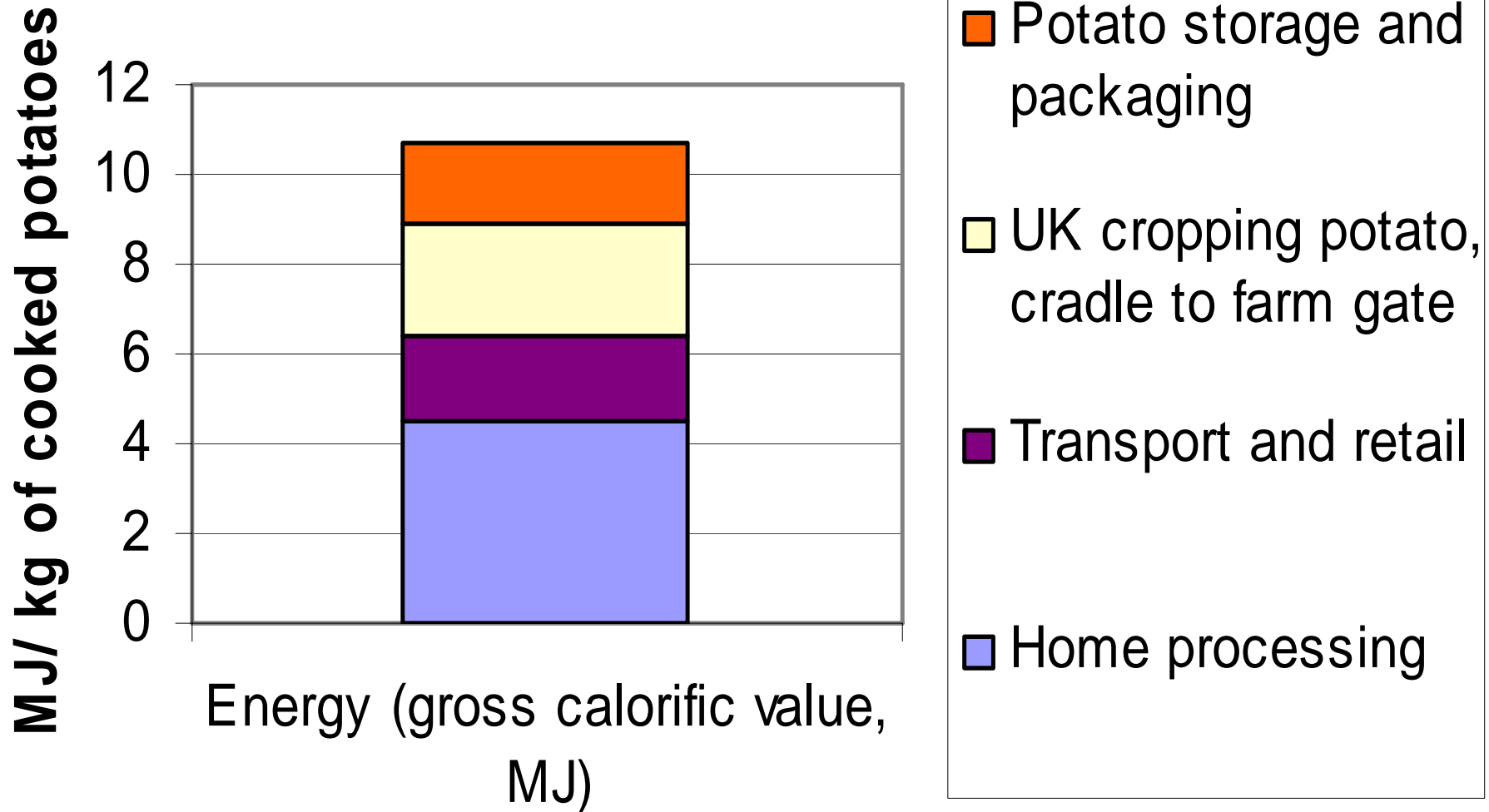# The consumer / politician / industrialist says:

'But that too complicated, how can I ever decide on what to do when faced with all that information'.

"I find shopping a constant compromise! Do I buy organic? Do I buy Fair Trade? Do I buy local? I want to buy local but I can't…it's really frustrating but I can't…it's really difficult to buy apples from Speaking as ~~a scientist I~~ *Haroldshill"* ~~say~~cus group attendee)

'CORRECT – but..

a) just because its complex doesn't mean we shouldn't start to fill in the gaps with some science.

b) To base your decisions on only one criterion may not lead to optimal outputs.'

Energy consumption in the life cycle of 1 kg of potatoes

MJ/ kg of cooked potatoes

Energy (gross calorific value, MJ)

- Potato storage and packaging
- UK cropping potato, cradle to farm gate
- Transport and retail
- Home processing

Conclusions

- We don't have enough evidence to make rational environmentally benign food purchasing decisions.

- We don't have enough evidence to make rational socially enhancing food purchasing decisions.

- But many people <u>need to think</u> they are making environmentally / socially benign purchasing decisions.

- This is fine…

…………….……but in the absence of evidence where do you get your information from?

- Can you trust…..social scientists, anti-globalisation campaigners, Farmers Union of Wales, Soil Association, your father in law?

All you can do is to act in the best way for you.

But recognise that what is best for your conscience isn't necessarily best for mine

and it

may not save the world.

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50

UK
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BUNCH
BEETROOT 2 FOR 90p
49p PER BUNCH

UK LOCAL GROWN
WICKHAMFORD
SANTA CHERRY
TOMATOES
99p PER PACK

by Tamsen Day