



Global & local food security

UNIVERSITY OF THE THIRD AGE

3rd July 2019



About us ...

- 🎧 We're independent
- 🎧 We focus where others don't
- 🎧 And have fun while we're doing it

SLIDE 1

- 🎧 I told the story of a presentation I made in London in April 2018 (see [this blogpost](#)) when I'd begun by saying that the colour of my hair, among other attributes, indicates I didn't have a career to lose. A University Prof, a world expert on crop pathogens. Their first words: *Unlike Kate, I have a career to lose.* And how shocking this state of affairs is.
- 🎧 Where we focus later — see later.
- 🎧 Meanwhile . . . the video sums up our approach. Evidence-based + imaginative ways to communicate.



SLIDE 2

I showed a video clip (the first one [in this blogpost](#)) containing an excerpt from the food crime musical, along with interviews with [Prof Chris Elliott](#) & [Nicola Temple](#).

Chris led HMG [Elliott Review into the integrity and assurance of food supply networks](#). At the review stage, he'd asked me for a case study of how a major UK city could tackle food crime. We literally got the last word (actually the last couple of pages) of his final report.

To bring this important topic to life in Birmingham, I commissioned *The Hand That Feeds*, of which more in the blogpost.

For more info, see our report: [Global Risks to UK Food Supplies](#)



Our focus

- 🎯 Food safety, assurance & integrity
- 🎯 The economics of it all
- 🎯 Risk & resilience/system instabilities

SLIDE 3

- 🎯 Food crime, also FHRS project (to raise food hygiene ratings in food outlets such as schools, care homes, hospitals, et al).
- 🎯 It's surprising few look at sector economics. We do.
- 🎯 Plus risk & resilience and system instabilities.

I interspersed my talk with questions, starting by saying few understand scale or probabilities. Humans minds don't readily compute such matters.

- ❖ Q: An apple a day keeps the doctor away How many apples a day needed if everyone in the UK is to obey this maxim? A year?

**SLIDE 4**

The video is [here](#). (Don't blink, you'll miss it, 30 seconds.)

The answer is ~24 billion. So five a day? 120 billion.

I then gave two factoids:

- ❖ Approx 75% UK fruit & veg important, up to 80% from EU. Local produce ain't a great idea 'cos our climate and terrain. Much of our land/climate better for other agri-products. Hard Brexit is thus a very Bad Idea; tariffs, non-tariff barriers & supply competition.
- ❖ Q: How much food do we import? (40% in a good year, pop 68.5M.), cf 70% in 1939 (47.5M people) A reminder of effect of 1946 Repeal of the Corn Laws.



FOOD (in)SECURITY
Rome Declaration 1996

Food security exists when **all people, at all times**, have physical, social and economic **access to sufficient, safe and nutritious food** that meets their dietary needs and food preferences for an active and healthy life . . .

Rome Declaration on World Food Security
November 1996

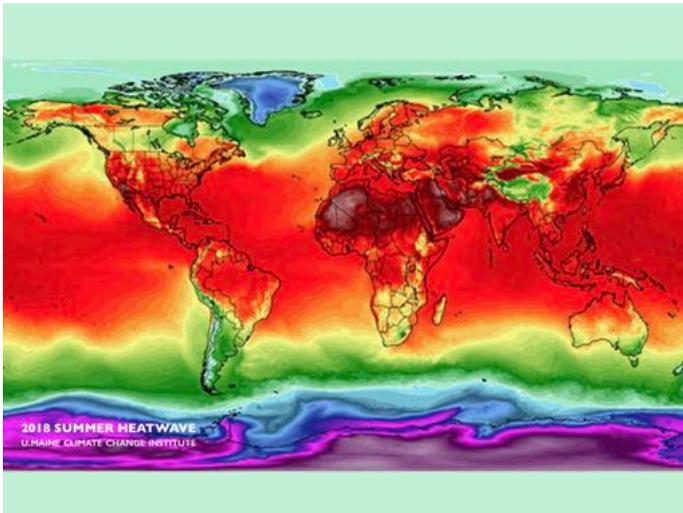
SLIDE 5

Rome Declaration = best definition of food security. But it's the economics of the system that's creaking. Story of Simon Beckett of nearby Becketts Farm, also [here](#).

- ❖ Q: How many calories a day are needed to keep all of us here in Birmingham alive? Average required is 2K, so 2.2 billion. Actual UK consumption is 3.4K/day

Note that Birmingham is a small city in global terms. (35M live in Greater Tokyo; over 50% world population live in urban areas.)

And if you live in a city or town, as 83% of the UK population does, more in south east England, there are no work-arounds if food supplies run out..

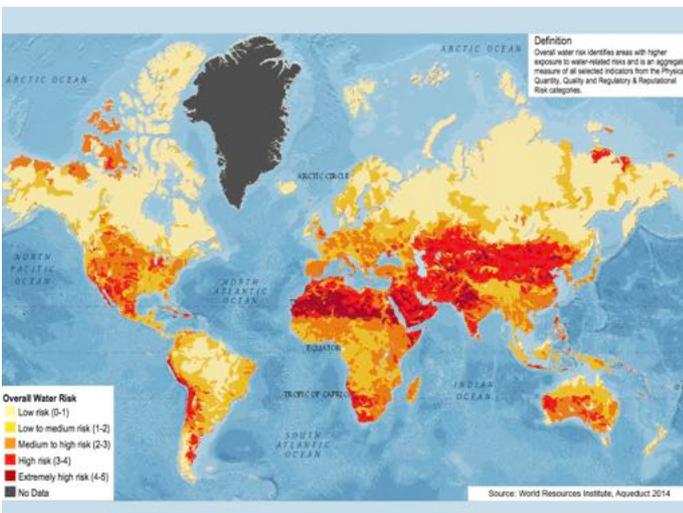


SLIDE 6

As most know, last year's heatwave was across the northern hemisphere, not just a local event. Since 1500 AD, Europe's hottest years have been last year, (2018), 2016, 2010, 2003, 2002 . . . this year, 2019??

Two questions:

- ❖ Q: How many calories a day are needed to keep all of us here in Birmingham alive? Average required is 2K, are no work-arounds. A year?
- ❖ Q: At what temperature do many plants stop growing, including most crops? Answer: 28-30°C (which is why broccoli heads last year were so small).



SLIDE 7

The UN Food and Agriculture Organization (FAO) estimate that, by 2025, 1.8bn people will be living in areas with absolute water scarcity, and that two-thirds world population will be living in water-stressed regions.

Includes the south-east of England. East Anglia is entering its second decade of being classed as semi-arid. (Parts of Syria are in their second decade of drought.)

Add in pollution. Groundwater under North China Plain running out *and* 70% of it 'unfit for human touch'. Causes cognitive stunting in infants; estimates third children in rural China care cognitively stunted owing to eating contaminated food & breathing polluted air.

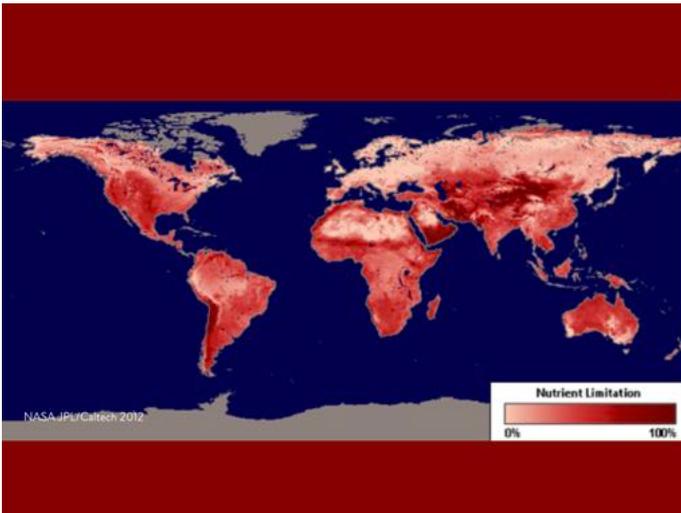


SLIDE 8

Flooding has two major consequences. First, unlike a drought which comes at farmers slowly, a flood can devastate a crop within hours. Top fruit (e.g plums) can take a decade or more to recover, as the soil quality can too. Secondly, heavy rainfall erodes soil, sweeping it away, (inset tweet shows effects of snow, wind, rain).

Earlier I asked about food imports now, and in 1939; the answer to which provides evidence of a huge rise in agri-productivity. And:

- ❖ Q: How much food did the UK import after the dreadful floods in 2012? Answer: 50%; i.e. a 25% increase on years when UK harvests are good.

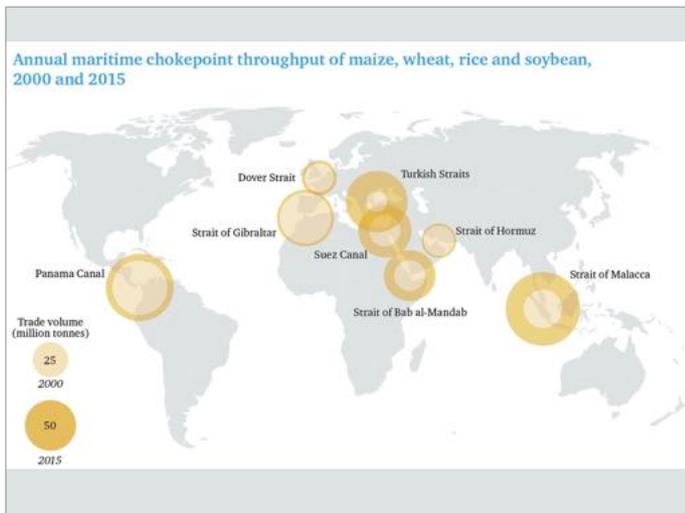


SLIDE 9

Plants (including grass for grazing) need not just energy (which, unlike us, they get directly from the sun), but also nutrients. Even without weather erosion, cropping leads to nutrient depletion. Map: Global impact.

Crop rotation & animal dung dealt with this challenge historically. Scale now to feed everyone can't depend on only these practices. Hence fertiliser use, vital to feed the world's population *despite* all the issues associated with them. 'Organic' = lower yields; "a Western privilege" at the expense of the global harvest.

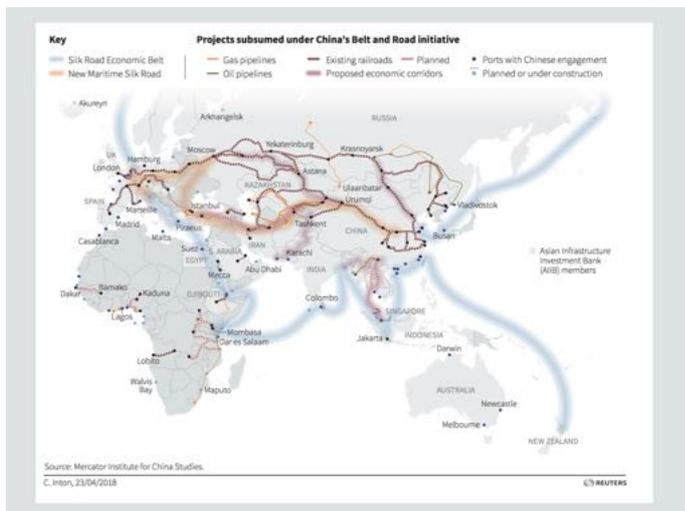
And we need to grow a third more food by 2050 to meet population forecasts, but on a third less land.



SLIDE 10

Geopolitics is to large extent driven by food supplies. This map is from [this Chatham House report](#). *note:* Calories in bulk (grains & seeds) are heavy. So transported by sea.

- ❖ Q: There are 411M people living in the Middle East, where not a lot grows. How many calories/day do they need? A year (300 trillion.) And where do they come from? (Most from southern Russia and through three chokepoints.
- ❖ 563% increase in grain and seeds through Malacca Straits between 2000-16 & 705% in soy beans. Where is this produce going? (China). Where from? (Dunno, but global harvest yields have been plateau-ing.)



SLIDE 11

Prime example of changing geopolitics exemplified in China's Belt & Road Initiative. (See Peter Frankopan's highly readable, erudite [The New Silk Roads](#).)

This map also incidentally highlights the potential geopolitical impact of the melting ice caps. Last August, the first container ship — not an ice-breaker tho' it did have a strengthened hull, took the Arctic route.

Another potential impact of global warming. If the Atlantic meridional overturning circulation (AMOC) collapses, there will be an irreversible impact on crops (see p11-12 of [this GFS report](#), this [April 2018 Guardian article](#) and this [2019 Carbon Brief article here](#)).



SLIDE 12

In 2017-18, we ran a horizon scanning project with experts from across the food sector, with Parveen Mehta leading the discussion 3-5 years out, [NFU's Helen Ferrier](#) 6-12 years, and Prof Chris Elliott 2030-2050. (See our project report [Back from the Future](#), not comfy read.)

Parveen is the Operations Director of [Minor Weir & Willis](#), one of the UK's largest wholesale fruit and veg suppliers, state-of-the-art HQ in Witton.) He led the discussion on the horizon 3-5 years out.

In [this video interview](#) with Nick Booth made on the night, he talks about the global competition for safe, nutritious food.



What individuals can do

- Drink mostly tap water
- Eat food, not a lot, mostly plants
- Don't fly unless you must

AND

SLIDE 13

- *note:* EcoBirmingham [Refill Birmingham](#).
- These seven words are from a lecture Michael Pollan gave to Center for Disease Control scientists in 2009.
- Don't fly unless you must: I'd said earlier that we needed a qualitatively different conversation about migration (re the 1.8bn FAO estimate of people living in regions with absolute water scarcity). On such a topic, few U3A members think of themselves in this context. Tourism is a kind of (unnecessary) migration.

A worrying series of factoids: In 1990, there were 435M international tourists, in 2016, 1.2bn and last year, 1.4bn. Many pensioners think travel is their due. It's not.



Speak truth to power:

- Argue for realistic, robust WM risk & resilience planning
- Argue for the City Council to prohibit partnerships with & advertising by corporates who make & promote drug-foods

SLIDE 14

- Police authority areas and organisations such as Councils, have a statutory duty to produce a Risk Register and Resilience Plan. Traditionally, this is blue-lights stuff, not 'long fuse' issues such as obesity or climate change. The West Midlands current Plan is both out of date and scarily inadequate with regard to food supplies (surprising as it was compiled shortly after of the tanker drivers' strike and the 2012 floods).
- i.e. corporates make and promote drug-foods. VAT is a precise mechanism to identify who they are. For more. The Food Council will be publishing a paper soon on this matter; for the moment, see [this blogpost](#).