



What does a sustainable diet look like?

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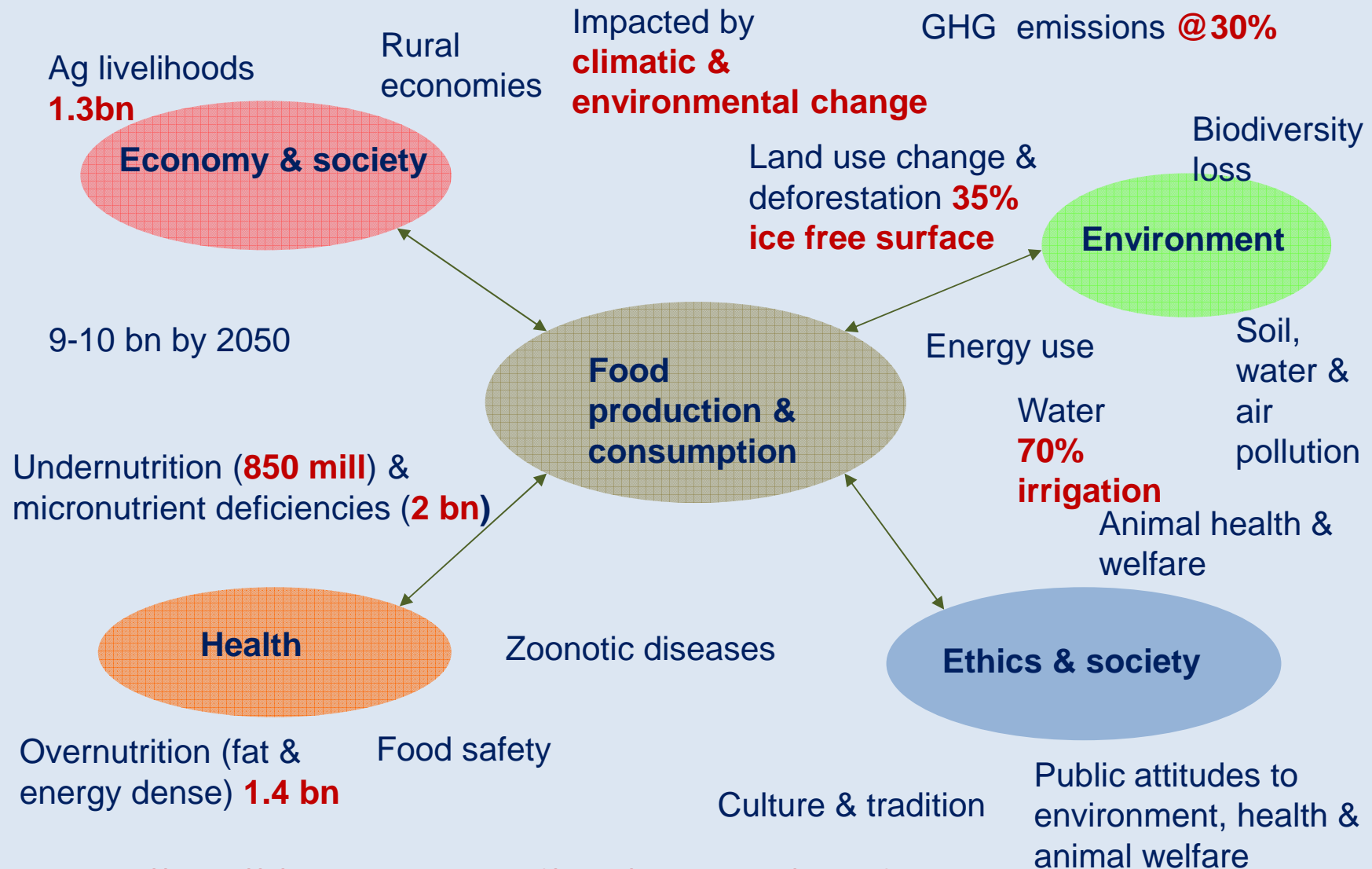
University of Oxford

10 December 2013

Answer: It depends ...

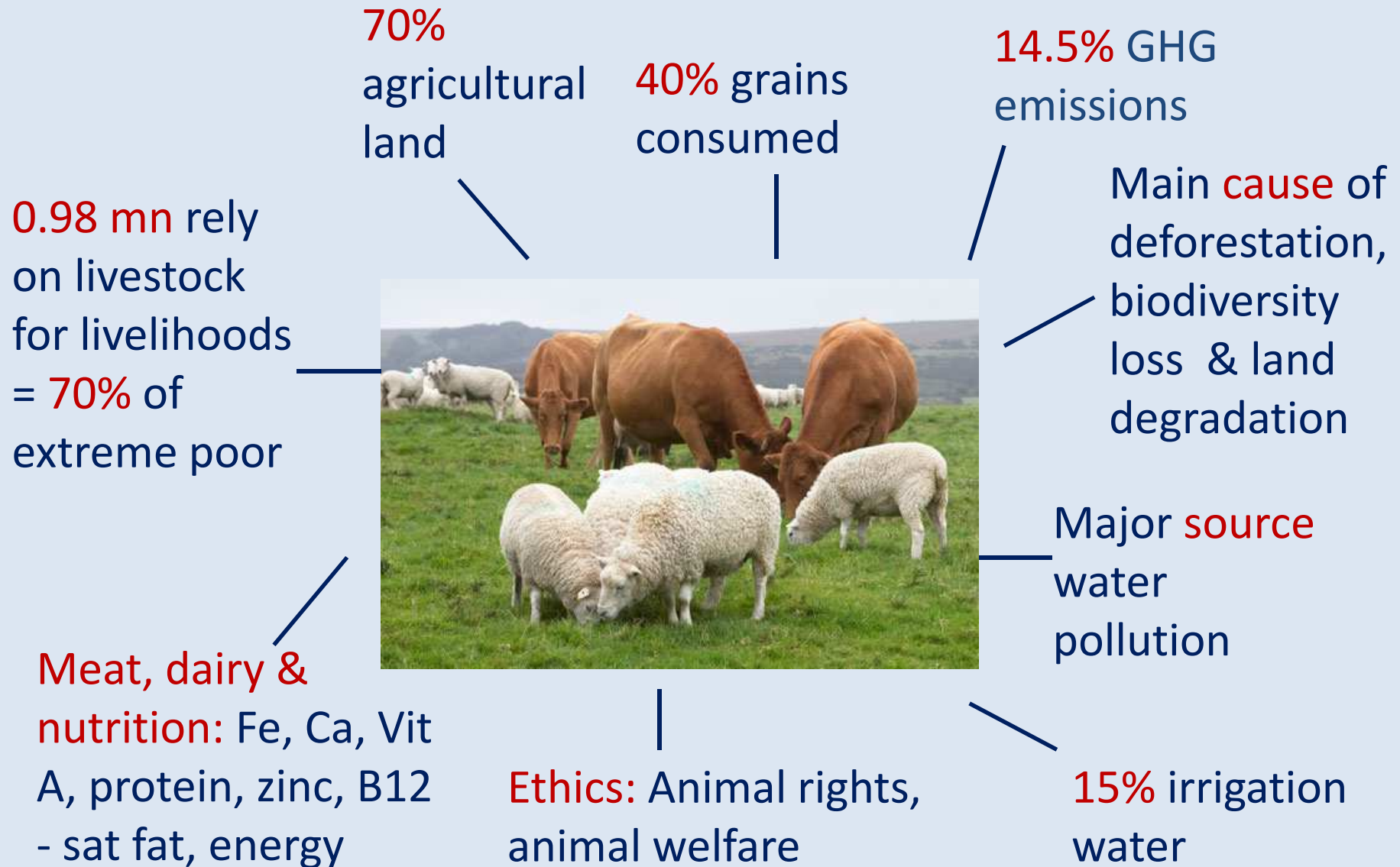
on how you prioritise among trade offs, your choice of metrics & what your framing assumptions are

Food – a convergence of concerns



All well known & endlessly articulated...

Livestock & meat: particularly contested...



We all want a sustainable health
enhancing food system!

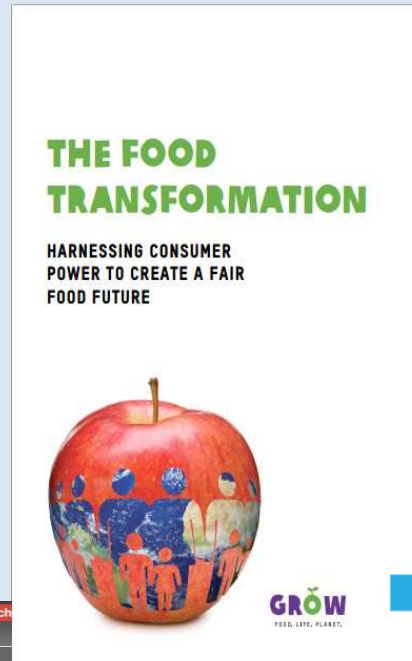
And healthy sustainable diets

A lot has been written on the subject

Advice on environmentally or ethically mindful diets



(sometimes saying that they are also healthy)



Sustainweb search the site search

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Home > Sustainable Food > Meat and dairy products: less is more

Sustainable Food

Sustainable food

Sustainable food for events

What is sustainable food?

Eat the seasons!

Farming for the planet

Meat and dairy products: less is more

Plenty more fish in the sea...?

Trade fair

Don't bottle it!

Promote the well-being of you and your family

You've got better food, now...

Useful publications ¹²

Meat and dairy products: less is more

What's the problem?

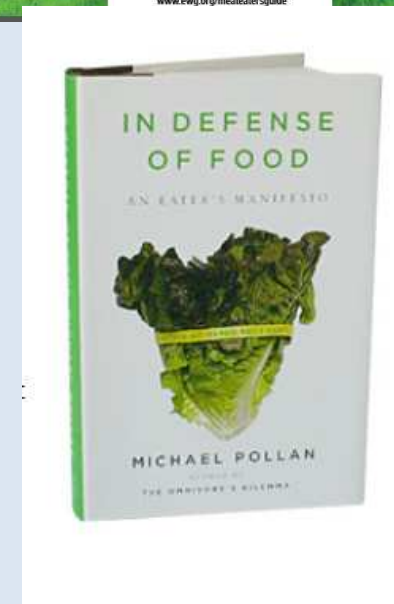
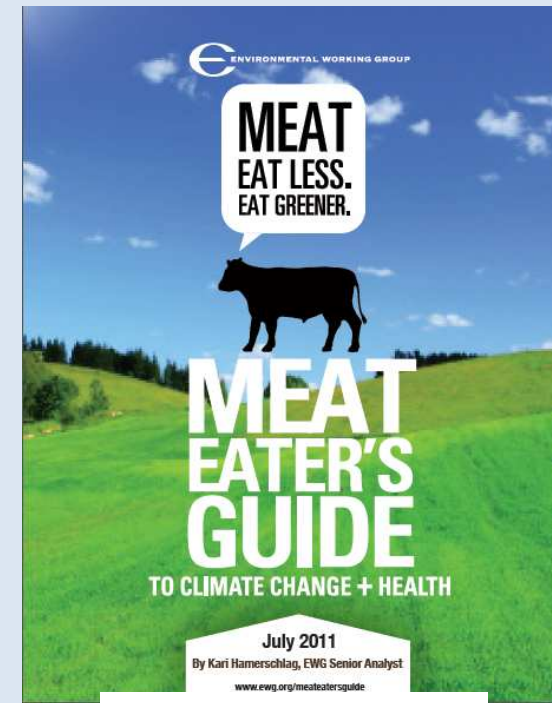
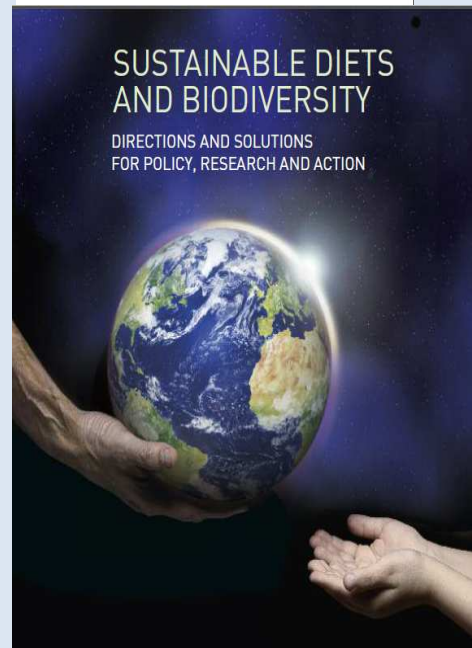
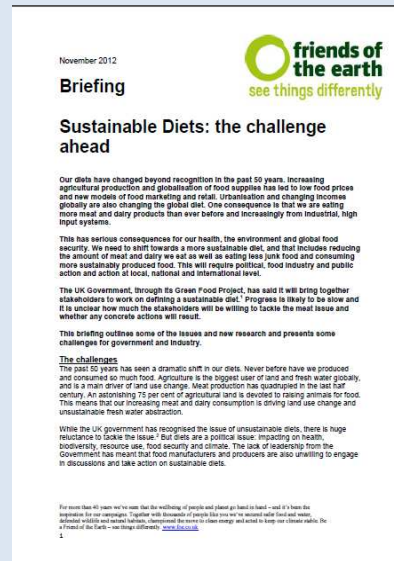
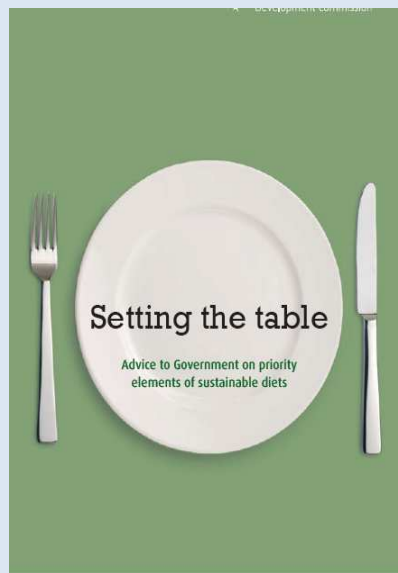
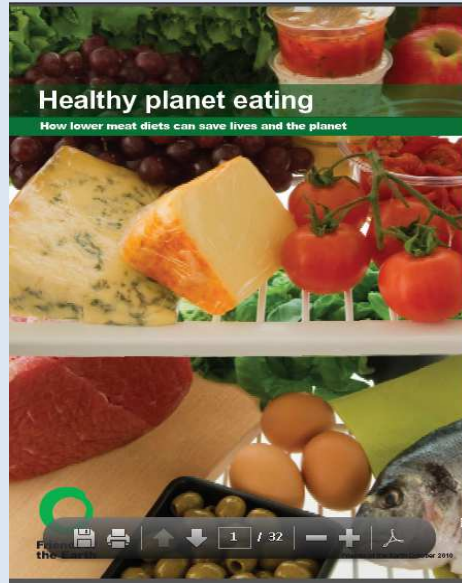
Climate change
According to latest figures from the United Nations, animal farming globally causes more greenhouse gas emissions than all of the cars, lorries and planes in the world put together, and the effect is increasing. [1] The reasons for this are complicated, but are associated with several factors:

- Large amounts of animal feed need to be produced to make relatively small amounts of meat or milk – around 7kg of grain for 1kg of beef, 4kg of grain for 1kg of pork, 2kg of grain for 1kg of poultry.
- Nitrogen fertilisers are used to produce animal feed, resulting in energy use and emissions of, for example, the powerful greenhouse gas nitrous oxide.
- Livestock (particularly ruminants such as cows and sheep) emit high levels of methane from their digestive systems.
- Natural 'carbon sinks' such as forests, that can absorb carbon dioxide, are destroyed to make way for animal grazing, or crops for animal feed, so removing trees and disturbing or destroying soil.
- Animals, their feed and the resulting animal products are usually transported, often over large distances, and usually in energy-intensive refrigerated conditions.

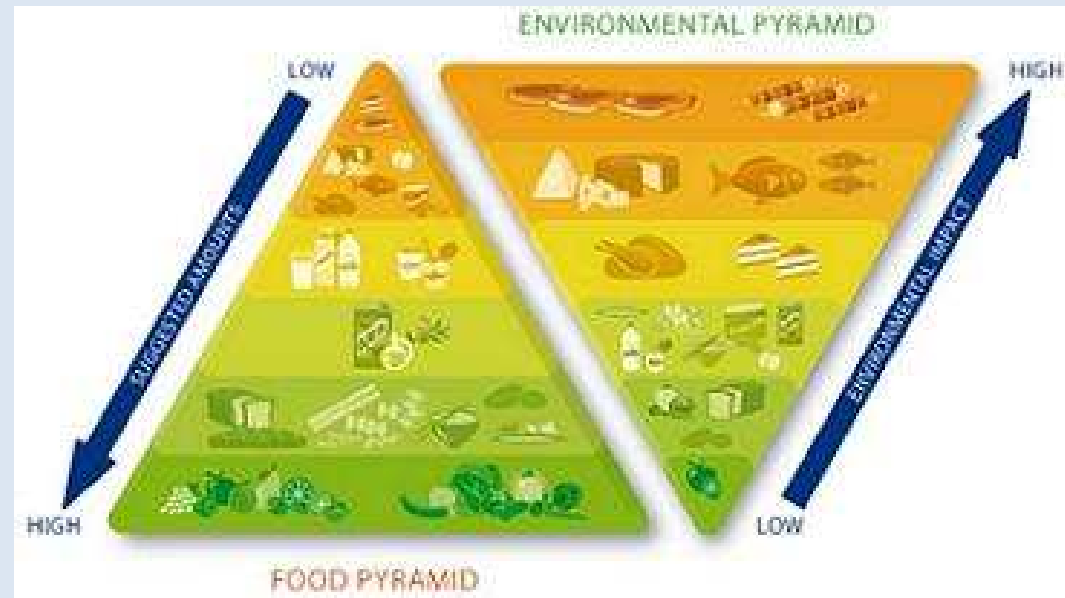
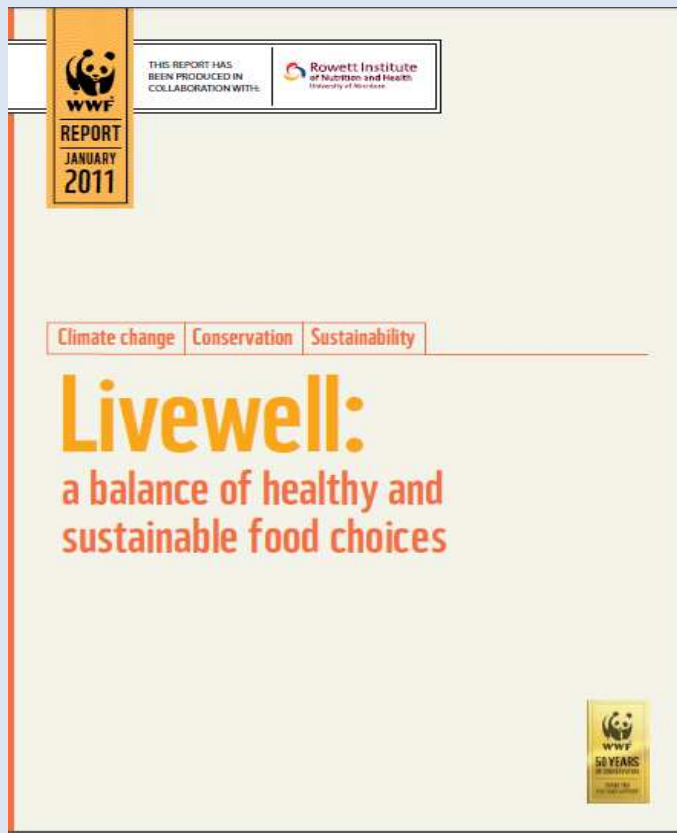
ZERO CARBON BRITAIN 2030

A NEW ENERGY STRATEGY
The second report of the Zero Carbon Britain project

And more....



Some specific advice on sustainable *and* healthy diets



Increasing number of academic studies (more from environmental than health researchers)

Health impacts of altered meat consumption:

- Millward D and Garnett T (2010). Food and the planet: nutritional dilemmas of greenhouse gas emission reductions through reduced intakes of meat and dairy foods, *Proceedings of the Nutrition Society*, 69, 103–118
- Friel S, Dangour A, Garnett T, Lock K, Butler A, Butler CD, Chalabi Z, Roberts I, Waage J, McMichael A J, Haines A. (2009), Public health benefits of strategies to reduce greenhouse-gas emissions: food and agriculture *The Lancet*, 374: 2016–25
- Some work on lower-GHG-health synergies (based on Livewell): Macdiarmid et al (2012). Sustainable diets for the future: can we contribute to reducing greenhouse gas emissions by eating a healthy diet? *Am J Clin Nutr* 96: 3 632-639 (based on Livewell)

GHG for nutrient density... :

- Corson, M.S., van der Werf, H.M.G. (Eds.), 2012. Proceedings of the 8th International Conference on Life Cycle Assessment in the Agri-Food Sector (LCA Food 2012), 1-4 October 2012, Saint Malo, France. INRA, Rennes, France.
- Highlights the dominance of evidence on GHG / water and less on other elements of environmental or wider sustainability

'Real life diets' and their health-environmental implications

eg. Vieux et al AJCN 2013

Lots of UK govt research

- Future implications of trends in healthy eating on existing food production and manufacture - **FO0427**
- Evidence to define the sustainability of a healthy diet **FO0430**
- Synthesis report on food related consumer behaviours - **EV0510**
- Review of evidence on consumer food related behaviours that impact on sustainability - **EV0541**
- Sustainability and the supermarket shopper: analysis of the promoters for and barriers to sustainable food purchasing behaviour - **FO0401**
- Understanding the environmental impacts of consuming foods that are produced locally in season. - **FO0412**
- Effective approaches to environmental labelling of food products - **FO0419**
- Applying theories of behavioural change: using innovative techniques within the context of specific lifestyle groups - **SD14005**
- Public understanding of sustainable consumption of food - **EV02045**
- **Etc etc etc**

Evolving policy..Some initiatives, but not always successful

Home > Agriculture & Food > News

Sweden promotes climate-friendly food choices

Published 22 June 2009, updated 14 December 2012
Tags Food

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Guidelines for climate-friendly food choices developed by the Swedish authorities recommend citizens to reduce their meat and rice consumption as a way of reducing greenhouse gas emissions. The first of their kind, the guidelines are being sent out for reactions and inspiration from other EU countries.

BACKGROUND:
According to the European Commission, the food and drink sector contributes to some 23% of global resource use and 18% of greenhouse gas emissions.

"Meat – beef, lamb, pork and chicken – is the food group that has the greatest impact on the environment," state the [guidelines](#), jointly drafted by the Swedish National Food Administration and the country's Environmental Protection Agency.

The authorities note that Swedes' meat consumption has grown by an average of 10% per person over the past ten years and now totals 65 kilos.

Health Council of the Netherlands
Guidelines for a healthy diet: the ecological perspective



Sweden ↑

Netherlands →


Industry advocacy

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alpro Things we make: Plant Power | Breakfast Inspiration | Recipe Inspiration | Daskfest


WWF Alpro was the first European food company to join WWF Climate Savers, committing us to cutting our CO2 even though we're making more and more delicious products.



Water Soya drinks use 2.5 times less water to produce than milk...
That's good news, because water is becoming an increasingly precious resource all over the world.



Land ...3 times less land...
Grazing animals need space, putting pressure on farmers to gobble up our forests; and simply growing feed for hungry herds uses around a third of all our arable land.



CO2 ...and create 5 times less CO2
Not only that, less methane is made, too, so altogether keeping our atmosphere cleaner and our climate a little more as we like it.

Defra Green food project: Principles of a sustainable healthy diet

1. Eat a **varied balanced diet** to maintain a healthy body weight.
2. Eat **more plant based foods**, including at least five portions of fruit & vegetables per day.
3. **Value your food**. Ask about where it comes from & how it is produced. Don't waste it.
4. **Moderate your meat consumption**, & enjoy more peas, beans, nuts, & other sources of protein.
5. Choose fish sourced from **sustainable stocks**. Seasonality and capture methods are important here too.
6. **Include milk and dairy products in your diet or seek out plant based alternatives**, including those that are fortified with additional vitamins and minerals.
7. Drink **tap water**
8. Eat **fewer** foods high in **fat, sugar and salt**
9. **A. headline message B. rationale C. qualifiers and caveats D. Peer reviewed literature sources.**

currently shelved...

Most of this work is...

- By NGOs and academics
- Mainly developed country focused
- Generally focuses on GHGs and mitigation
- Has less to say about adaptation or what mitigation looks like in the context of adaptation
- **Much of it ends up focusing on meat**

The problem is that definitions of sustainable & healthy

Are influenced by different opinions on:

The potential & malleability of:

- Technological innovation
- Current economic models
- Human motivations and behaviour

How the world works: what it's *like*

Can & shd the status quo be challenged: what's desirable? inevitable?

What does the **good life** look like? What sort of a society do we want?

Whether we should integrate issues or treat them separately

How we should prioritise when there are trade offs

What lies at the root of the sustainability-health problem

Values: **ethics and aesthetics** - underpin all these

And there are many interest groups

- Food industry: crop and livestock producers, manufacturers, retailers, caterers
- Environmental organisations
- Animal welfare groups/advocates
- Animal rights activists
- International development community
- Ethicists
- Nutritionists
- Academics
- Policy makers (influenced by many of the above)

Three broad perspectives emerging in debate on sustainable food

- Produce more food with less impact on environment & health – “status quo-*lite*”
- Restrain demand for resource intensive food – “meat is bad for you & the planet”
- Transform the system: “change the context of consumption & production”

Efficiency:

Not enough food!

Focus: Production

Envt: More for less

Food security: incr supply - "hunger"

Nutrition:

reformulations,
breeding &

biofortification

Anm welfare: good
veterinary care

Consume **smarter**

Freedom of choice

Green growth

Demand restraint:

Too much greed!

Focus: consumptn

Envt: Reduce
resource intensive
demand (meat)

**Food security &
nutrition:** "over-
consumption"

Anm welfare:
'natural living'

Consume **less**

'**Freedom from
consumption**'

Limits to growth

System transformation:

Too much inequality!

Focus: System-inequity

Envt: Small is beautiful

**Food security &
nutrition:** framing
conditions of access,
affordability,
empowerment

Anm welfare: One
health

Consume **fairer**

**Freedom to self
determine**

Equitable growth

Making progress...

- No one approach will do the job. Each alone **too simplistic**
- Food sustainability is **not (just) a “scientific” or technical** problem...
- ...**Values** influence the choice of metrics, assumptions re baselines, counterfactuals etc – we need to take these more seriously
- Efficiency perspective **overly dominates** in policy & practice
- And there are good reasons for **questioning** its sufficiency...

Throwing more food at a problem doesn't necessarily work

Food System ACTIVITIES

Producing food: *natural resources, inputs, markets, ...*

Processing & packaging food: *raw materials, standards, storage requirement, ...*

Distributing & retailing food: *transport, marketing, advertising, ...*

Consuming food: *acquisition, preparation, customs, ...*

Food System OUTCOMES Contributing to:

Social Welfare

- Income
- Employment
- Wealth
- Social capital
- Political capital
- Human capital

Food Security, i.e. stability over time for:

FOOD UTILISATION

- *Nutritional Value*
- *Social Value*
- *Food Safety*

FOOD ACCESS

- *Affordability*
- *Allocation*
- *Preference*

FOOD AVAILABILITY

- *Production*
- *Distribution*
- *Exchange*

Environmental Welfare

- Ecosystem stocks & flows
- Ecosystem services
- Access to natural capital

Source: Ingram et al, 2010

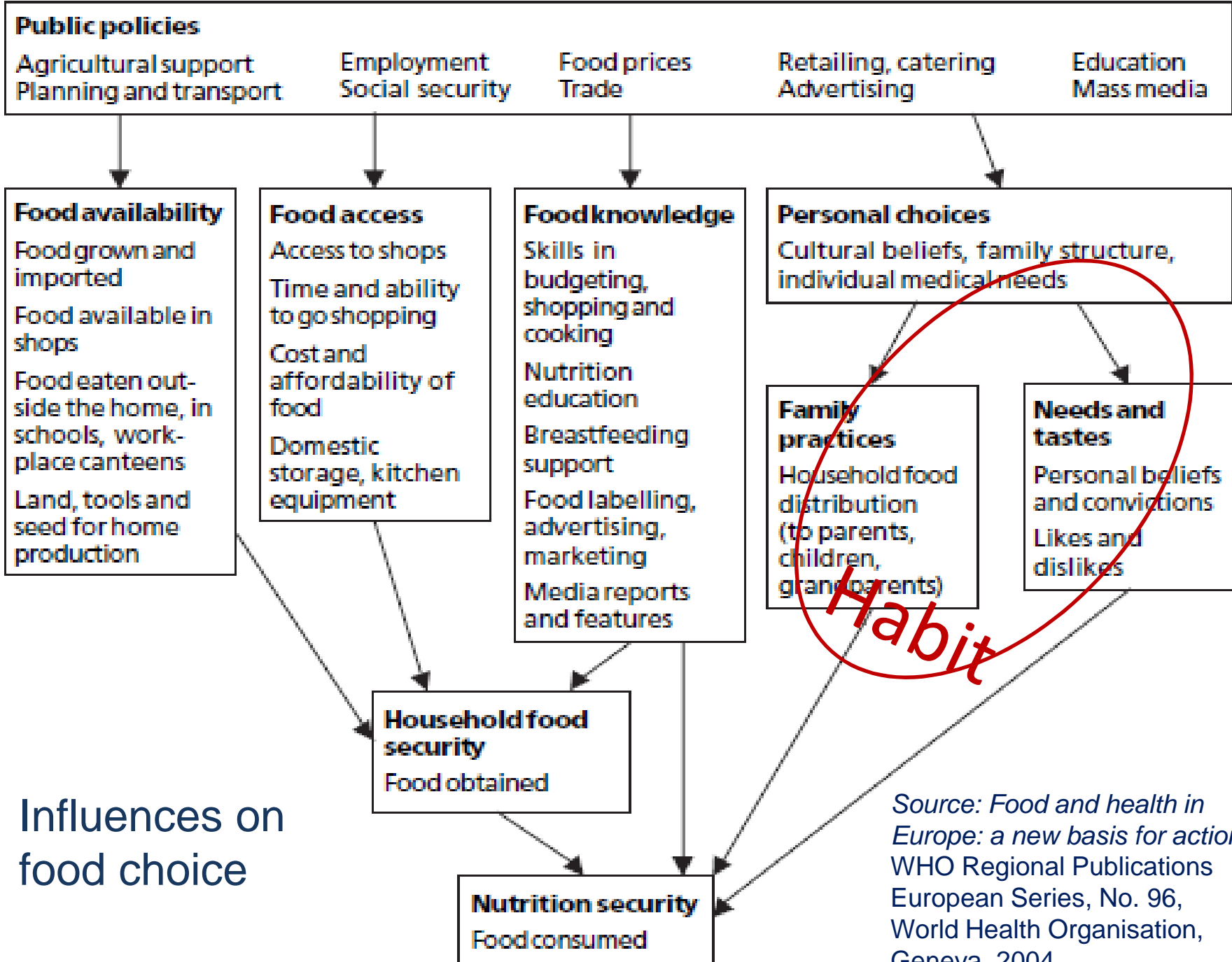
More meat-with-less impact doesn't get us far enough

- **FAO 2013 – on livestock:** On a global scale, **it is unlikely** that the emission intensity gains, based on the deployment of current technology, will entirely offset the inflation of emissions related to the sector's growth. However ...it is possible that technological breakthroughs will allow mitigation above and beyond current estimates.
- **Ray DK, Mueller ND, West PC, Foley JA (2013):** yield increases **insufficient to meet food demand** - alternatives are expanding cropland (deforestation) or addressing diets & waste
- **Smith et al 2013:** “while supply-side mitigation measures, such as changes in land management, might either enhance or negatively impact food security, demand-side ...measures, such as reduced waste or demand for livestock products, should **benefit both food security and greenhouse gas mitigation. Demand-side measures offer a greater potential ...**”
- **Plus:** Jägerskog, A., Jøynch Clausen, T. (eds.) 2012; Popp et al 2010, Pelletier & Tyedmers 2010; UNEP 2010;; Stehfest et al 2009), Agrimonde (2011) etc etc
- **So maybe we need to change our diets. BUT how??**

Behaviour change...?

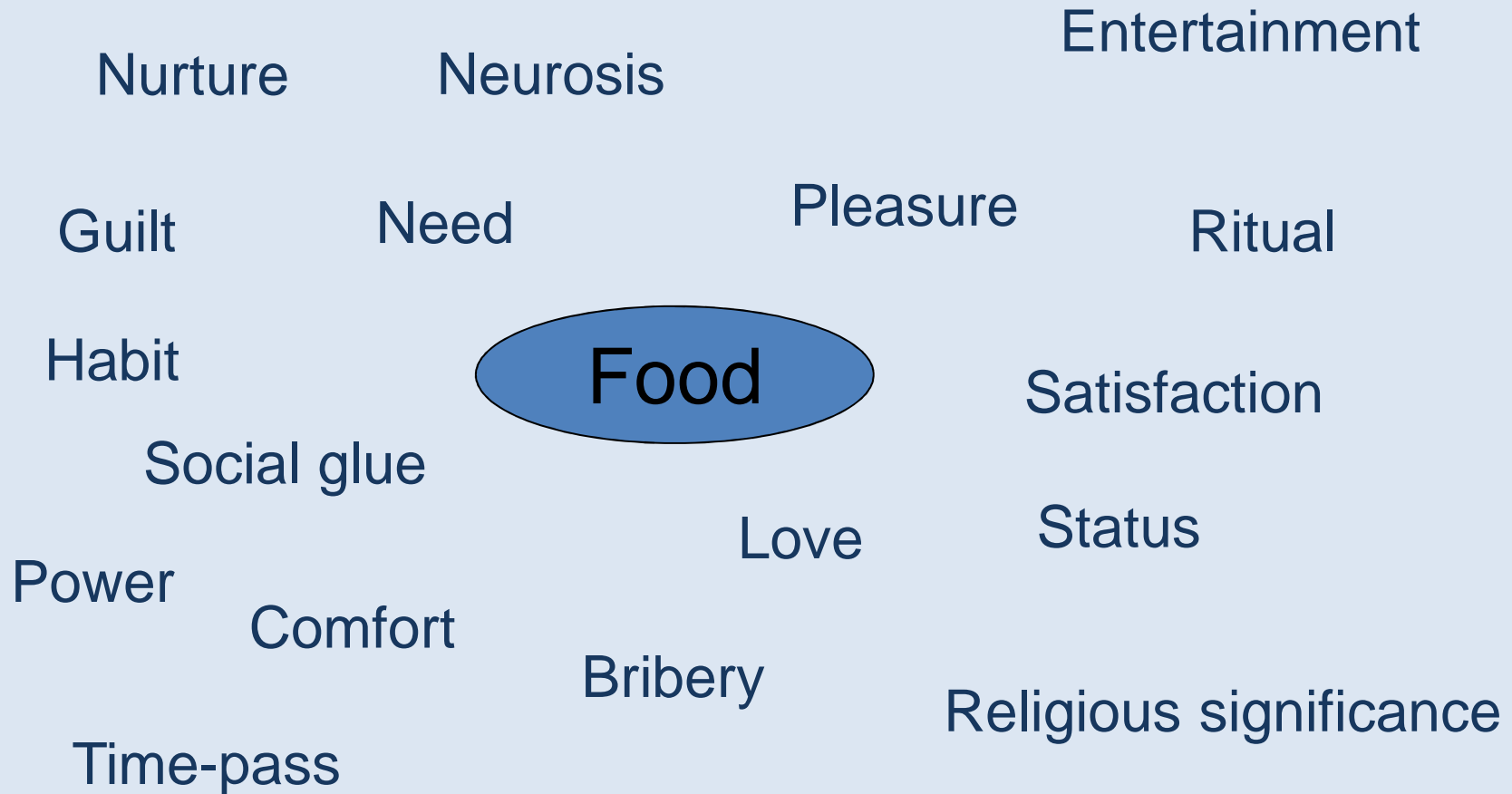
“You can’t tell people what to eat”

“People can’t change”



Source: *Food and health in Europe: a new basis for action*, WHO Regional Publications European Series, No. 96, World Health Organisation, Geneva, 2004

Food and its meanings



How do we value meat?

Have we tried? Mechanisms for changing behaviour:

Regulation and legislation

- Emission caps
- Public procurement specifications
- Standards
- Rationing
- Bans

Fiscal measures

- envt-linked production incentives & disincentives
- envt-linked consumption incentives & disincentives
- Personal carbon/envt budgeting
- 'internalising externalities' and PES

Voluntary agreements

- Supply chain agreements eg. on provision of vegetarian alternatives
- Basket-of-goods carbon reporting
- Meat sales reporting
- Choice editing

Information , awareness, nudge

- Carbon labelling
- Point of sales marketing
- Viral marketing campaigns
- Store design & layout
- Mainstream advertising campaigns
- Recipes, TV shows etc

Things do change...

★ PRET A MANGER ★

7 years ago



**fanatical
about
freshness!**

we are obsessed with ensuring you
get the freshest baguette around.
that's why after 3 hours we throw
them away. we believe we are
the only people that do this.
that's how fanatical we are!



Thank you

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