

Sustainability: why it is relevant to dietitians?

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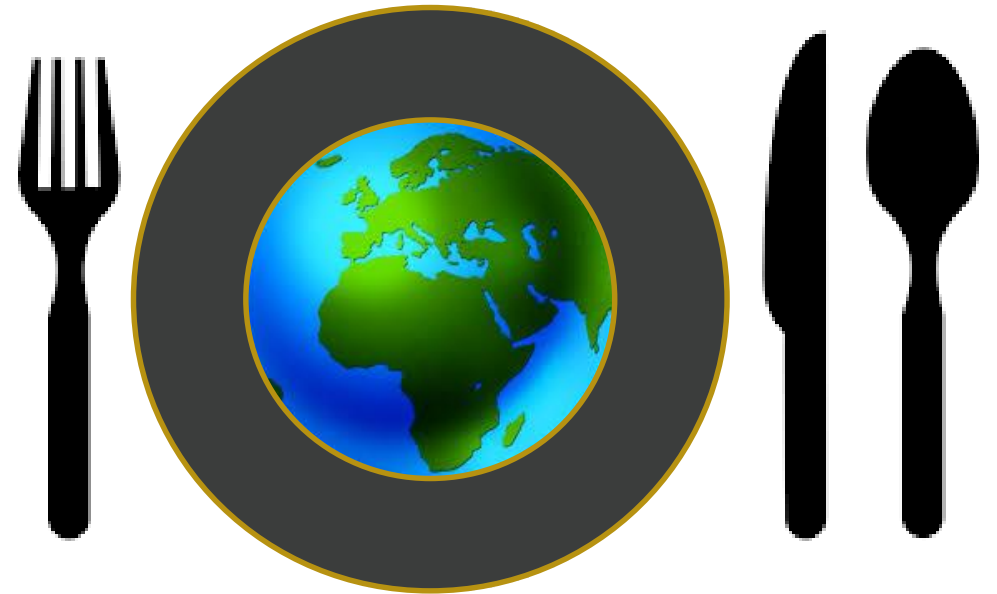
University College Dublin

Ireland



Overview

- “Go Green”
- Global challenges
- EASAC Report:
- What is a sustainable diet?
- Innovative, safe foods?
- Making changes?
- Food systems approach (holistic)
- Take home message



“Going Green”

REUSE 
REDUCE
RECYCLE



'Going vegan' is predicted to be the biggest food trend of 2018

“Going Vegan”

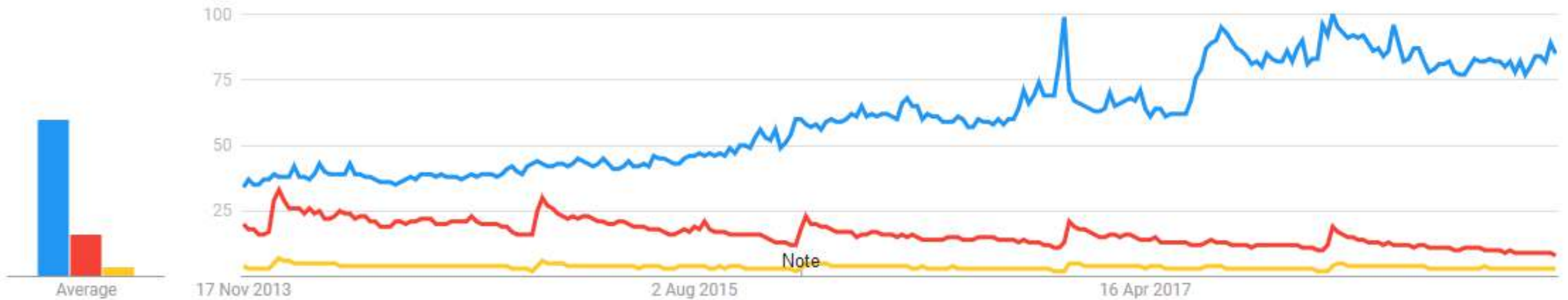
● Veganism
Topic

● Paleolithic diet
Topic

● Low-fat diet
Topic

Google Trends – 5 years

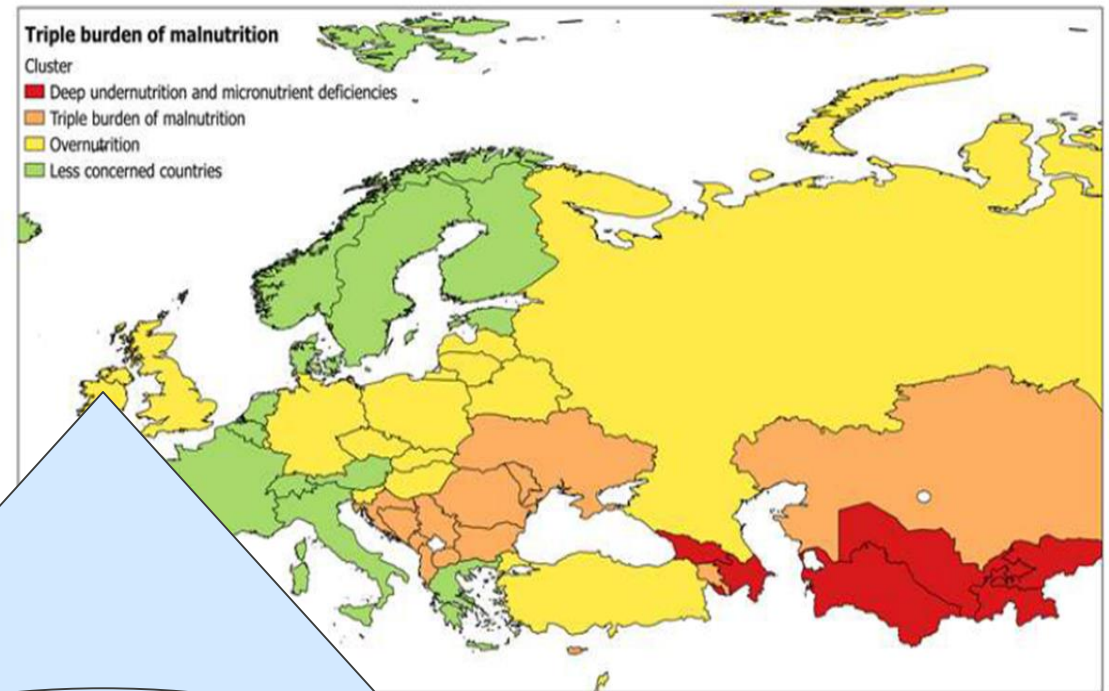
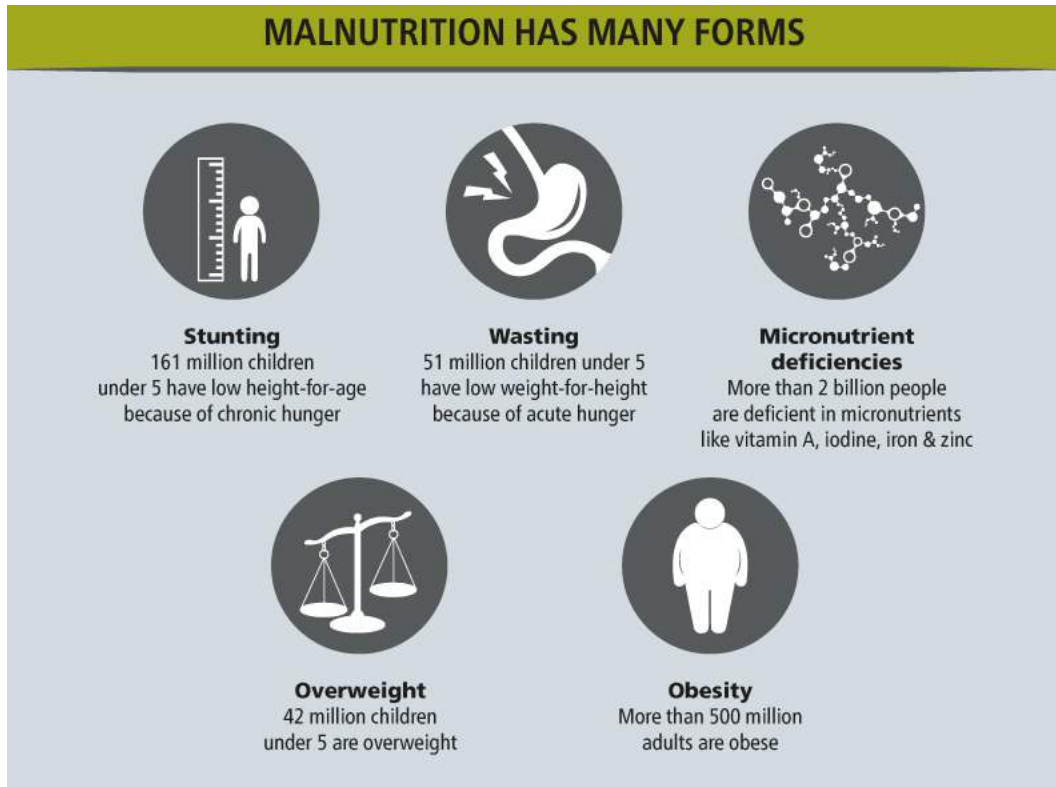
Consumer awareness ↑



Global challenges

Capacci, S., Mazzocchi, S., Shankar, B., Traill, W.B. (2013). FAO ECA

Figure 2 A classification of REU countries based on the three dimensions of malnutrition



Sub-groups:
 Infants, elderly, migrants
 Certain nutrients

Drivers of change impacting food and nutrition security

Demographic change: 9 billion by 2050 with 70% in urban areas

Behaviour change: lifestyle, overconsumption, obesity (20-25%)

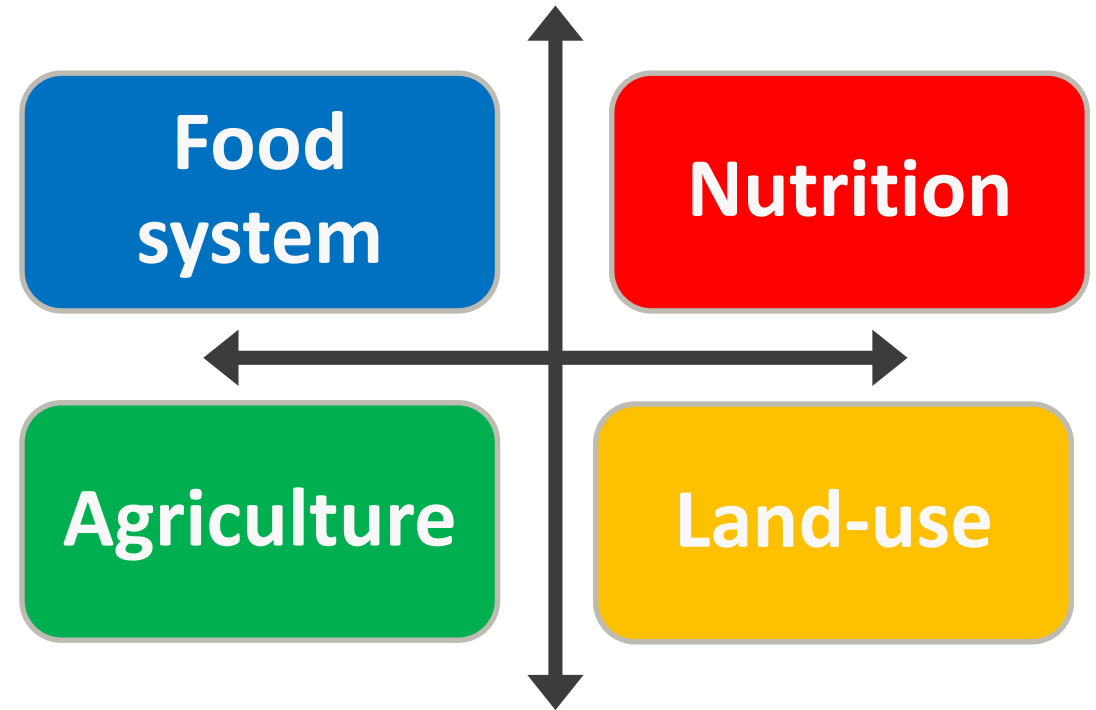
Food systems: agriculture and food account for 30% energy, 33% waste

Environmental change: climate change, water shortages, land shortages

EASAC Report: Sustainable Food and Nutrition Security



Opportunities and challenges for research on food and nutrition security and agriculture in Europe



Nutrition

What is a sustainable diet?

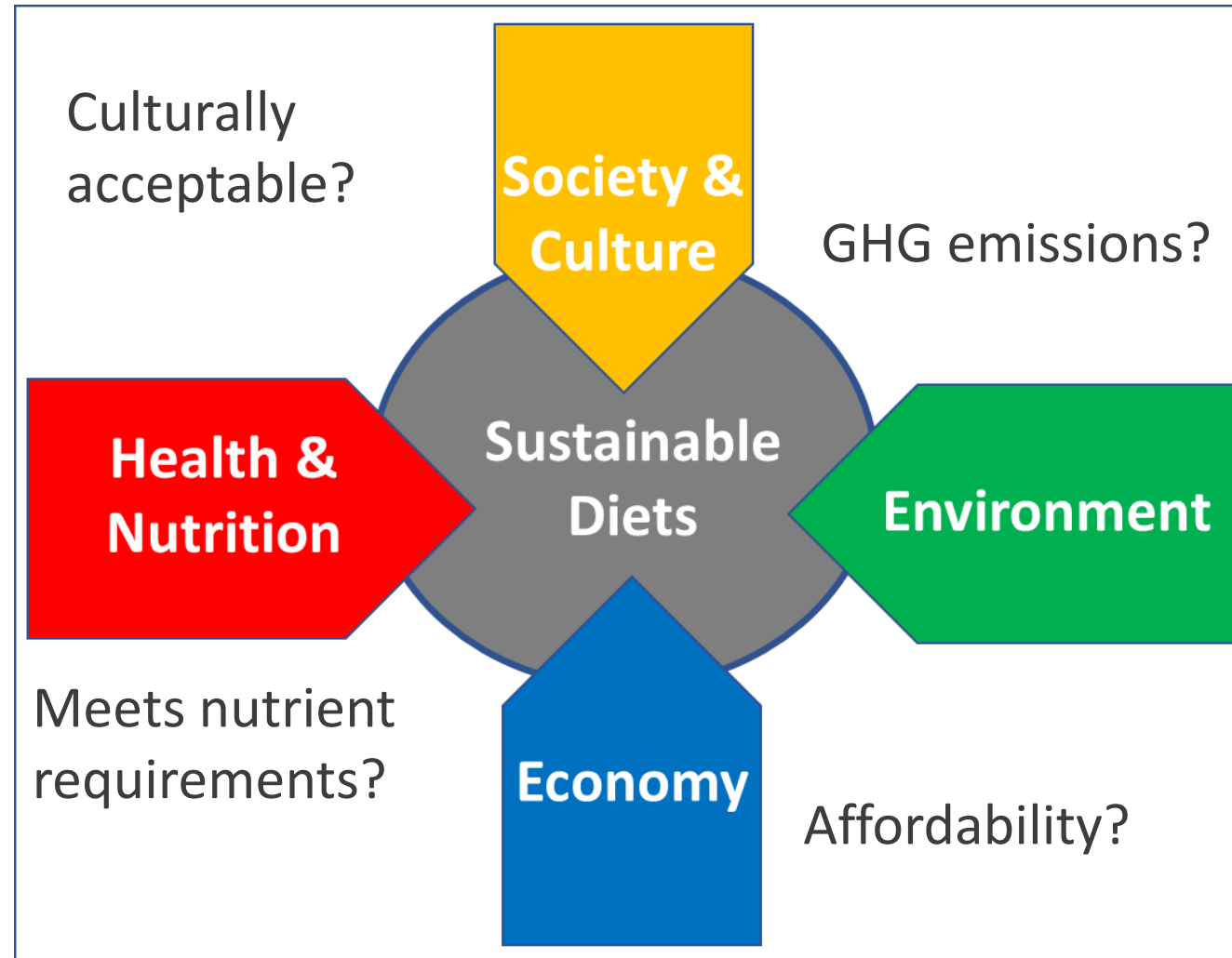
UN FAO defines sustainable diets as:

*“Those diets with **low environmental impacts** which contribute to food and **nutrition security and to healthy life** for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, **culturally acceptable**, accessible, **economically fair and affordable**; nutritionally adequate, safe and healthy; while optimizing natural and human resources.”*



Nutrition

How can we measure sustainability?

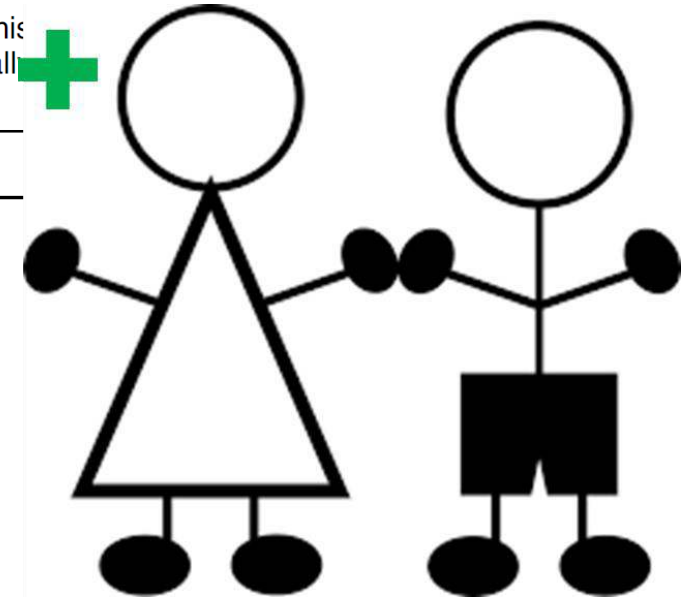


Nutrition

How can we measure sustainable diets?

Table 4 Food groups' ranking in terms of contribution to daily dietary greenhouse gas emission ratio of daily emissions to energy provided by the food group (GHGE:MJ) for the nationally representative energy misreporters (*n* 960)

Rank GHGE	Rank MJ	Food group	%GHGE
1	7	Red meat	22.3
2	3	Dairy	12.0
3	1	Starchy staples	10.6
4	4	Eggs/poultry/pork	9.5
5	5	Alcoholic beverages	6.9
6	15	Other beverages	6.5
7	8	Processed meat	4.6
8	2	High-sugar snacks	4.6
9	9	Fats/oils	4.5
10	12	Fish	4.2
11	10	Miscellaneous	4.2



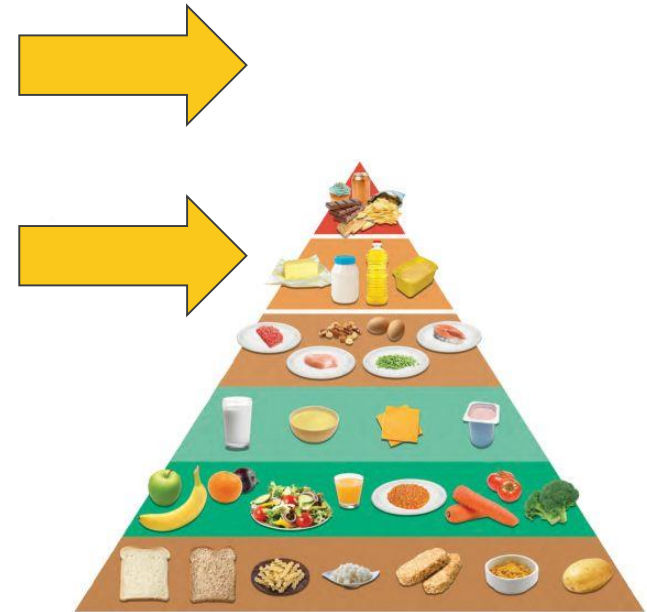
Food rank in relation to contribution to intakes of critical micronutrients

	Vitamin A	Vitamin D	Vitamin C	Folate	Calcium	Iron
Meat	3	1		7	4	2
Dairy	2	6	5	6	1	
Starchy			3	1	2	1



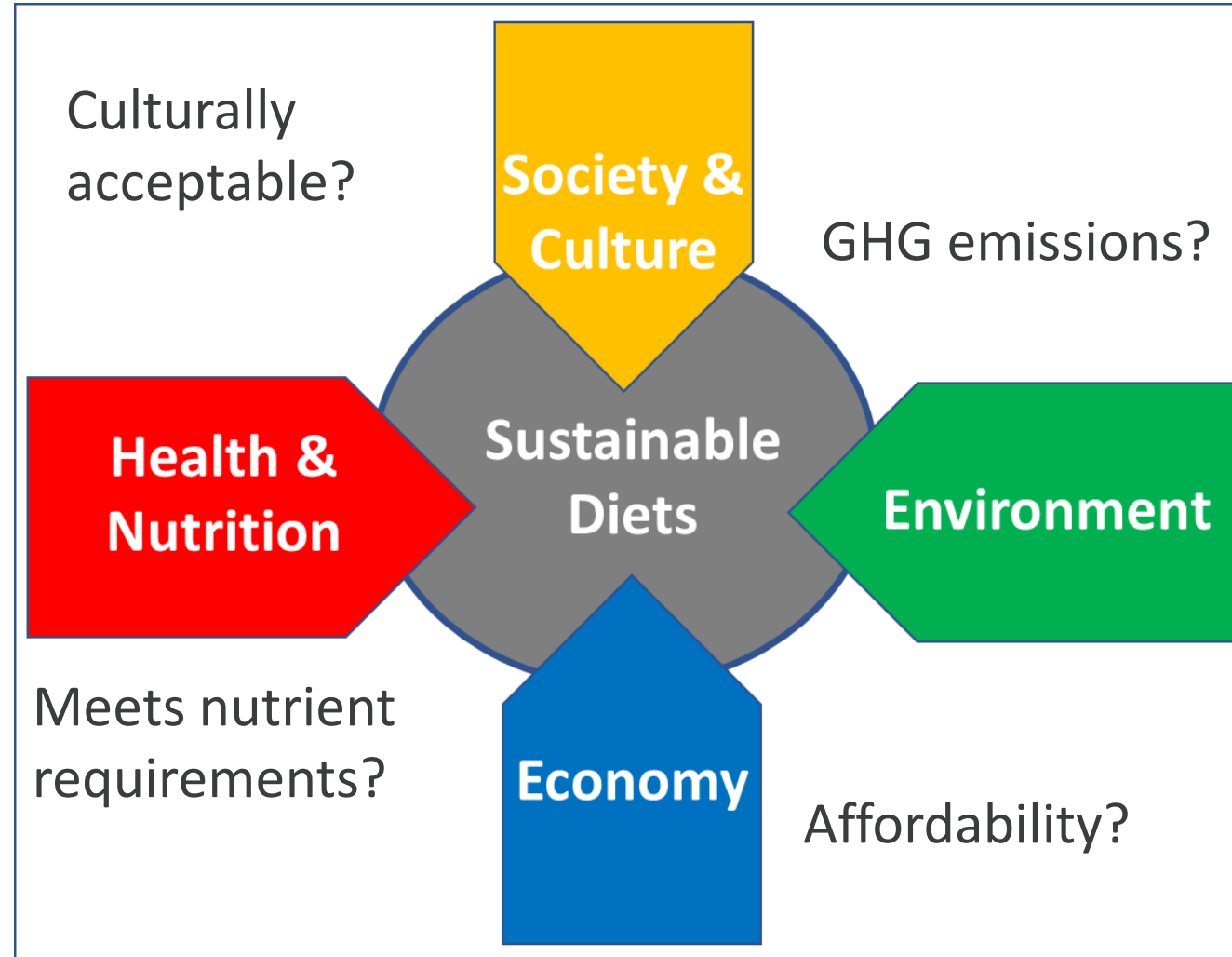
Nutrition

Innovative sustainable foods/diets?



Consumer acceptance and value chains?

Nutrition



Nutrition

Informing consumers and changing demand?

“Eating meat has never been so...”

Utilitarian: “good for the body” or “good for the environment”

Hedonic: “delicious”.. “exotic”.. or “trendy”

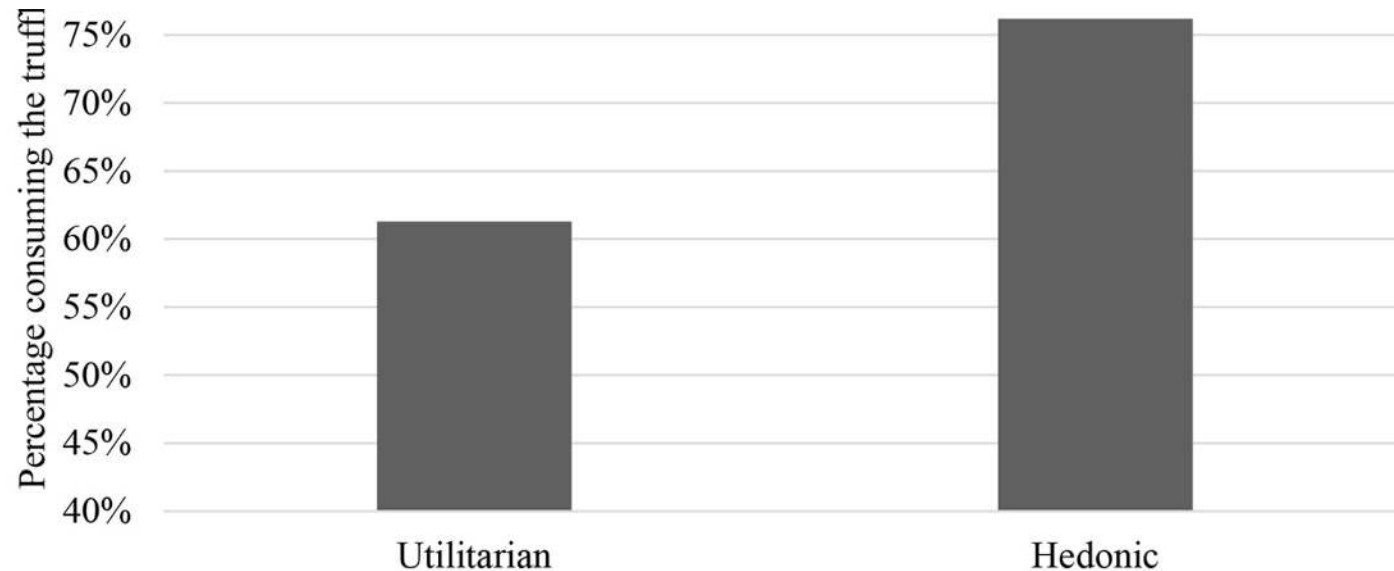


FIGURE 2 | Main results. Percentages of consuming the mealworm truffle (hedonic vs. Utilitarian claims).

Nutrition

...change supply?

Nutritional and greenhouse gas impacts of removing animals from US agriculture

www.pnas.org/cgi/doi/10.1073/pnas.1707322114

Robin R. White^{a,1,2} and Mary Beth Hall^{b,1,2}



- ↑ 23% in total food produced
- ↓ 28% in GHG from agriculture
- ↓ 2.6% in total GHG
- ↑ energy intake
- ↑ micronutrient deficiencies

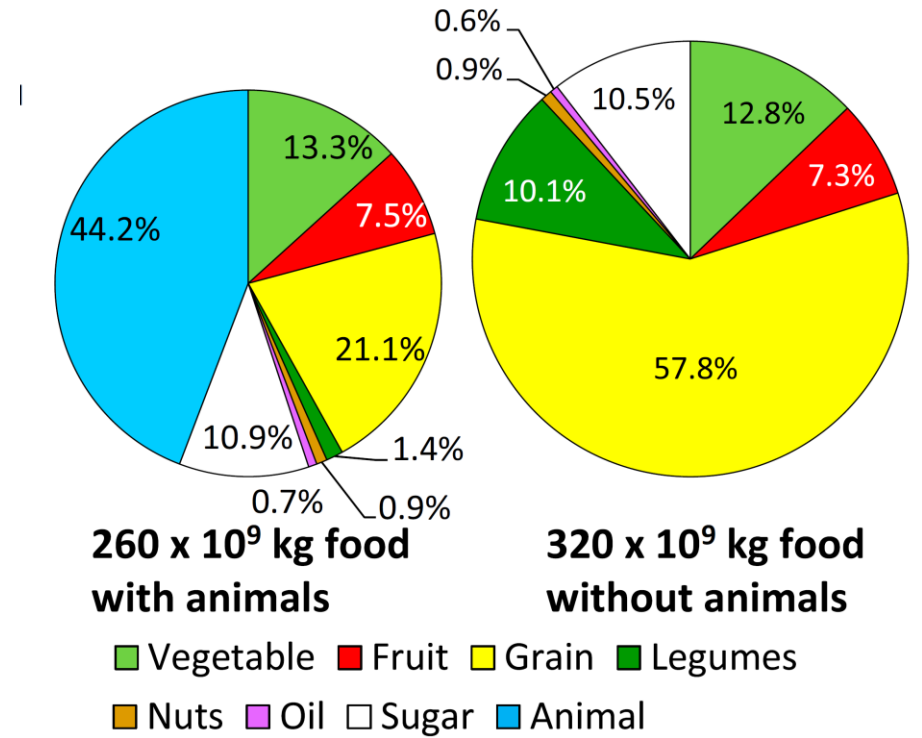


Fig. 3. Amounts and proportions of foods available in systems with and without animal inputs. Graphs are sized proportionally to the amounts of food available.



Nutrition

Unintended consequences of change?



FCRN

Changing consumption:
How can we change the way we eat?

Tara Garnett
Food Climate Research Network
May 2014



Change in practice	Outcome
People eat less meat but more refined, processed carbohydrates	These foods have low GHG emissions but are poor nutritionally and have other environmental downsides too
People eat less meat but eat more high impact fruits and vegetables (air freighted beans, berries and cherries, hothoused ratatouille vegetables)	Possibly good for health but potentially even higher GHG emissions than meat
Higher meat prices cause people to cut down on their meat spending but maintain quantity by eating less healthy meats such as sausages or fatty mince.	The impacts on GHG emissions are unclear; there will be benefits for resource efficiency; impact on health negative
GHG oriented policies lead to people shifting from red meat to poultry and pork	GHG reductions are reduced, impacts on health likely to be mixed, potentially negative implications for resource efficiency, land use effectiveness & biodiversity, and for soy dependence; potentially negative (on balance) for animal welfare
Higher meat prices cause people to increase spending on meat (maintaining consumption) but cut down on their fruit and vegetable consumption instead.	Negative outcomes for health and for the environment.

Nutrition

Country level sustainable dietary guidelines?



Sweden

“Find your way to eat greener, not too much and be active!”

MORE

Vegetables, fruit and berries
fish and shellfish
nuts and seeds
exercise



SWITCH TO

wholegrain
healthy fats
low-fat dairy products



LESS

red and processed meat
salt
sugar
alcohol



Plates, pyramids and planets

Developments in national healthy and sustainable dietary guidelines: a state of play assessment

Carlos Gonzalez Fischer & Tara Garnett

Food Climate Research Network

Environmental Change Institute & The Oxford Martin Programme on the Future of Food,
The University of Oxford



UCD Institute of Food & Health

Nutrition

Characteristics of healthier and less GHG- and land-intensive eating patterns

- Diversity – a wide variety of foods eaten.
- Balance achieved between energy intake and energy needs.
- Minimally processed tubers and whole grains; legumes; fruits + vegetables.
- Meat, if eaten, in moderate quantities – and all animal parts consumed.
- Dairy products or alternatives in moderation.
- Unsalted seeds and nuts.
- Small quantities of fish and aquatic products sourced from certified fisheries.
- Very limited foods high in fat, sugar or salt and low in micronutrients.
- Oils and fats with a beneficial Omega 3:6 ratio such as rapeseed and olive oil.
- Tap water in preference to other beverages – particularly soft drinks



Nutrition

Sustainable behaviours?

- Cook foods on low heat, for a short time, using little water and fat
- Use fresh ingredients (reduces unnecessary packaging waste)
- Take your time and enjoy eating.
- Eat regularly and carefully in appropriate environments
- Develop exercise and share cooking skills
- Make food and eating important in your life
- Be wary of food advertising
- Try to maintain energy balance by eating just the right amount
- Build and model healthy patterns and activity for your family
- Keep regular hours of meals, at least 1 with your family

Germany

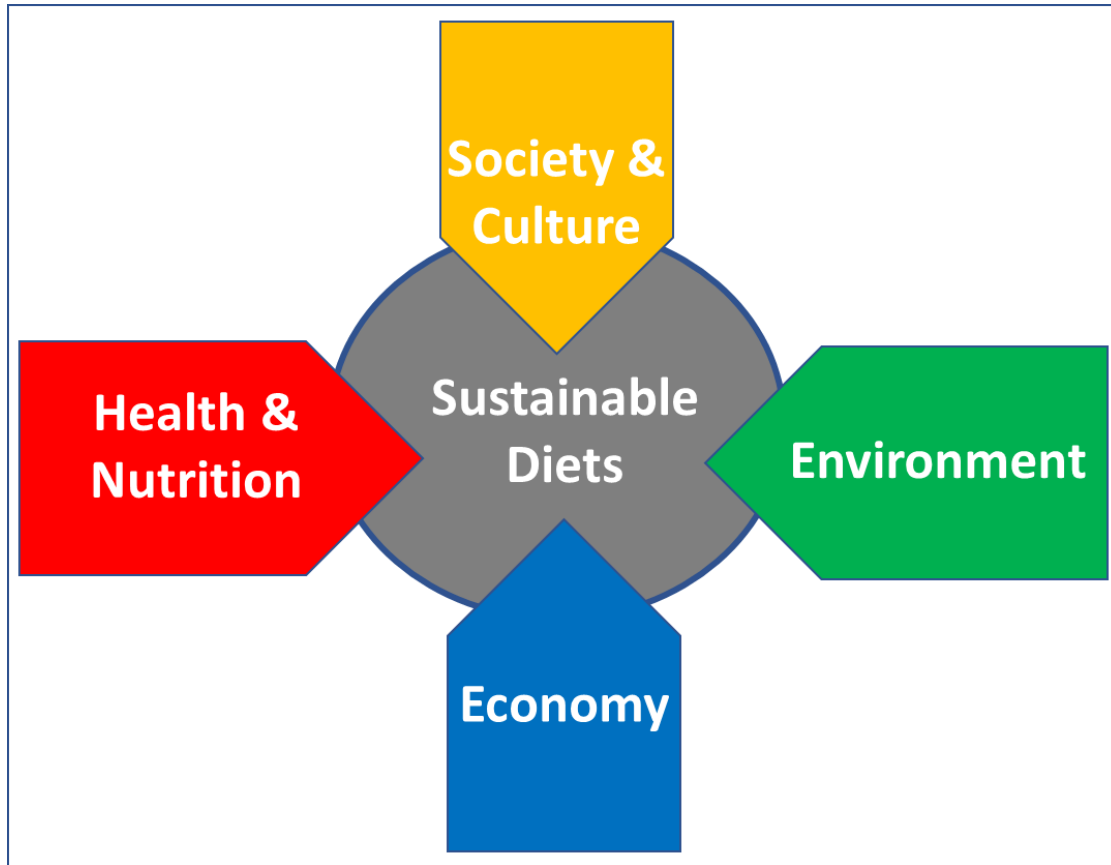
Brazil

Sweden

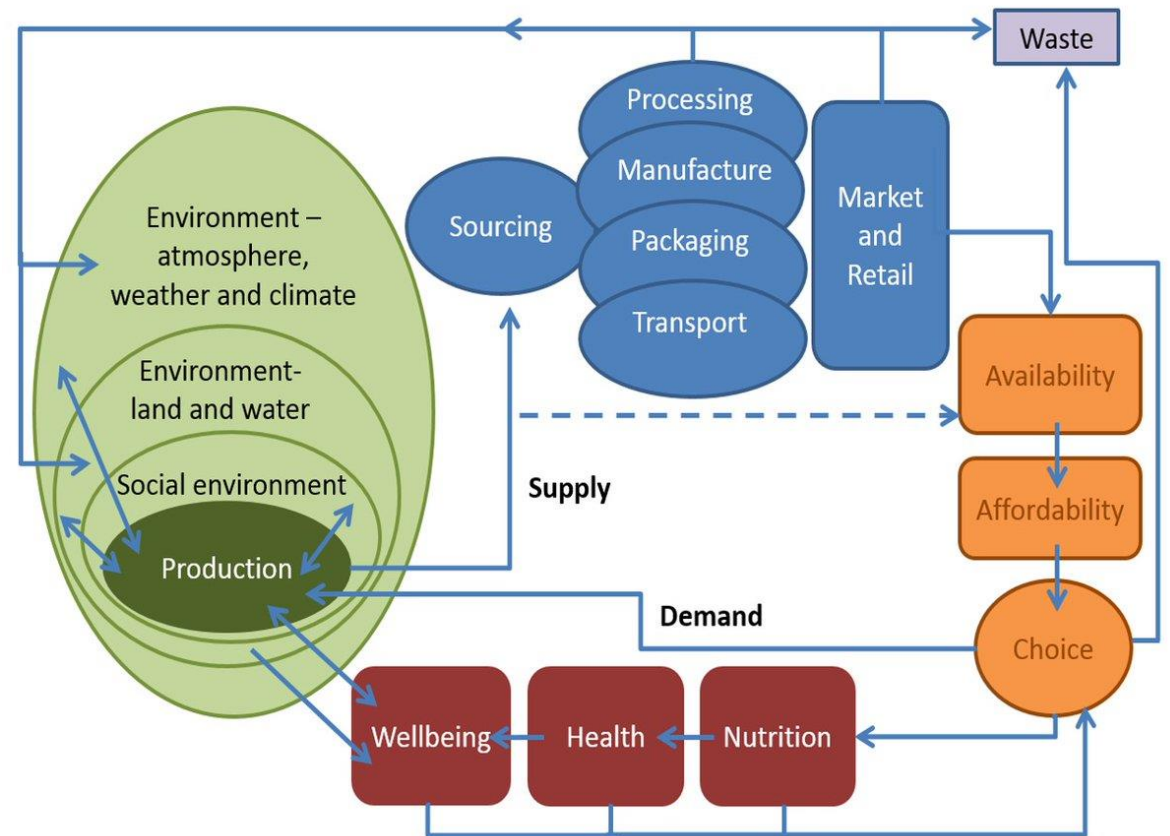
Qatar



Systems approach!



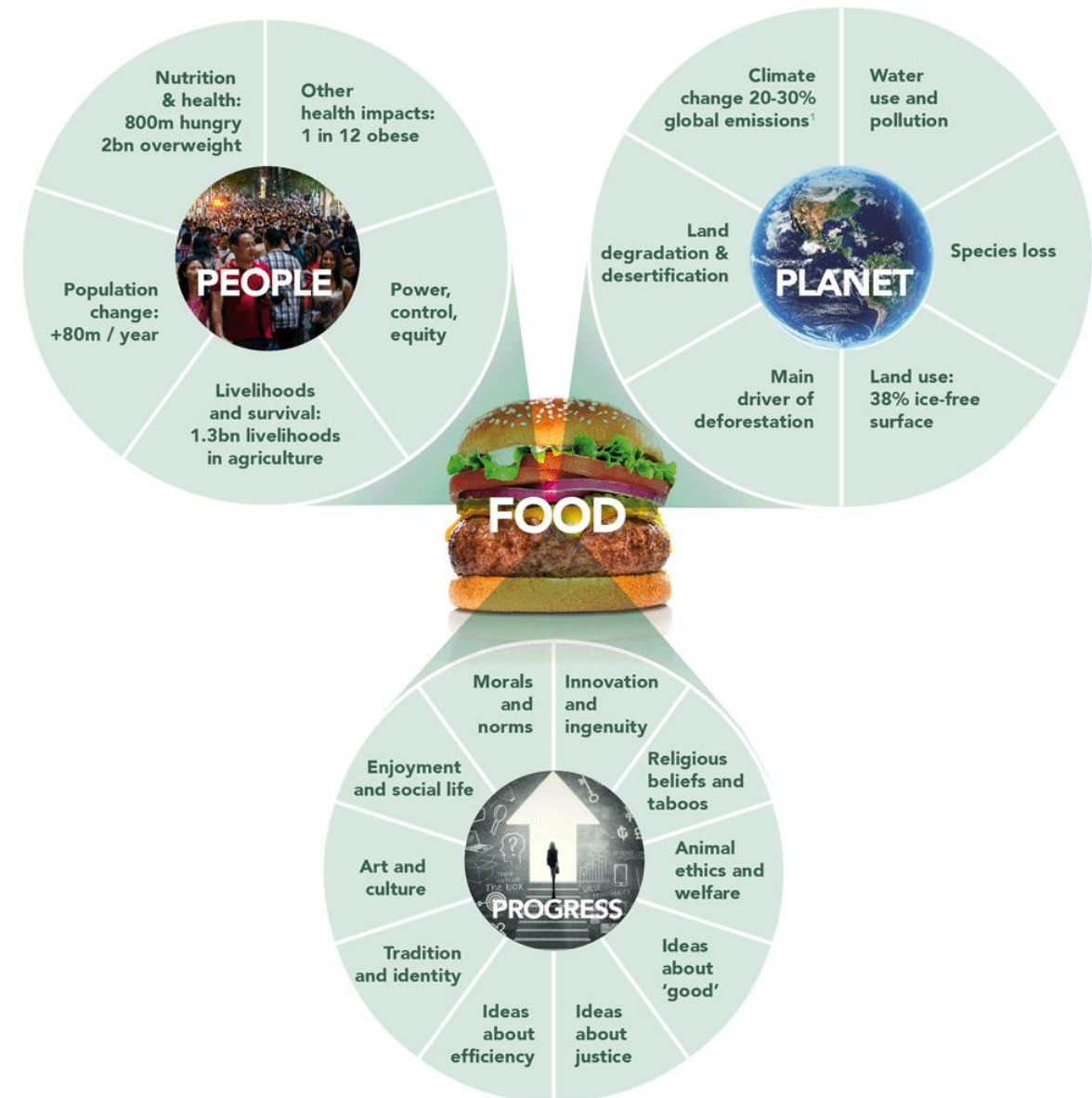
FAO 2010



Prof Tim Benton, University of Leeds

Complex system!

- Food is a nexus connecting different concerns and challenges
- We can't focus on one issue
- We need an integrated approach to create synergistic outcomes to benefit people and environment
- Integrated approach includes multiple stakeholders at all levels



Thank You!



Opportunities and challenges for research on food and nutrition security and agriculture in Europe



Joachim von Braun and Volker ter Meulen (Co-chairs, Germany)
Dag Lorents Aksnes (Norway)
Tim Benton (UK)
Alberto Garrido (Spain)
Charles Godfray (UK)
Anne-Marie Hermansson (Sweden)
Sander Janssen (the Netherlands)
Christian Jung (Germany)
Pavel Krasilnikov (Russia)
Aifric O'Sullivan (Ireland)
Jozsef Popp (Hungary)
Angelika Schnieke (Germany)
Barbara Wroblewska (Poland)
Claudia Canales (Norway) and Robin Fears (UK) (scientific secretariat)

