



Transforming and Growing Relationships within Regional Food Systems for Improved Nutrition and Sustainability





Overarching research hypothesis

A regional-based UK food system can provide healthy and sustainable diets, and that resilience in the system can be achieved through strengthening social capital among food system stakeholders



Willet et al. 2019. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems.



Objectives

1. To investigate the impact that directly connecting consumers to producers can have on household food culture.
2. Take a novel approach by using social media to analyse consumer and producer networks and identify bridging social capital, which can be critical points for intervention; and
3. To develop understandings of how social capital in regional food systems is established online and offline
4. Develop a novel “nutrition-scape” model that integrates nutritional information into existing ecosystem models to investigate the environmental impacts of changing regional production to align better with a healthy diet.
5. Develop new interactive visual tools to convey in a simple, yet effective way, the implications of regional agriculture and food choice on health and the environment (akin to a CO² calculator) and to use this to connect stakeholders in envisioned regional food systems.



Resilience

TGRAINS focus on resilience is primarily thinking about how we can re-orient the UK food systems in order to make the system more robust to stress and crises.

1. By taking a regional approach to food;
2. By re-organizing and building relationships between actors at a regional-scale back into the system;
3. By strengthening social capital among food system stakeholders.



Initial results

Table 1: Daily calories consumed per food group and comparison with EAT Lancet dietary recommendations.

* indicates statistically significant difference between the control and CSA groups, with p-value < .10.

Food Group	EAT Lancet Diet	CSA Diet	Control group diet
Whole grains	811	609	505
Tubers and starchy vegetables	39	93	100
Vegetables*	78	93	43
Fruits	126	117	103
Dairy foods*	153	205	284
Beef, lamb and pork*	30	46	121
Chicken and other poultry	62	46	59
Eggs	19	25	45
Fish	40	40	32
Legumes*	284	42	19
Nuts	291	66	33
All sugars*	120	268	389



Initial results

Table 2: Results from ANOVA run for aggregated daily food consumption, comparing the control group with the CSA group for key variables indicating health and sustainability of diet.

Daily intake	Control Group mean	CSA Group mean	p-value
Calories (kcal)	1737	1655	.556
Fat (g)	101	64	.027
Saturated fat (g)	31	20	.003
Protein (g)	74	56	.011
Carbohydrates (g)	212	178	.081
Sugar (g)	106	70	.001
CO2 emissions (gCO2e)	3823	2995	.022



Initial results

Benefits of receiving a veg box

- 37% eating a wider variety of quality vegetables
- 22% improved quality & taste of their vegetables
- 10% of participants mentioned putting the vegetables they receive at the centre of their meal planning

Health and sustainability

- 22% of participants mentioned feeling like they were eating more healthily – this was attributed both to eating a wider variety of quality vegetables, and to knowing that the vegetables were produced organically.
- 26% of participants mentioned appreciating the effect that receiving the vegetables had in driving them to eat in a way that they perceived to be more seasonal or environmentally sustainable



Initial results

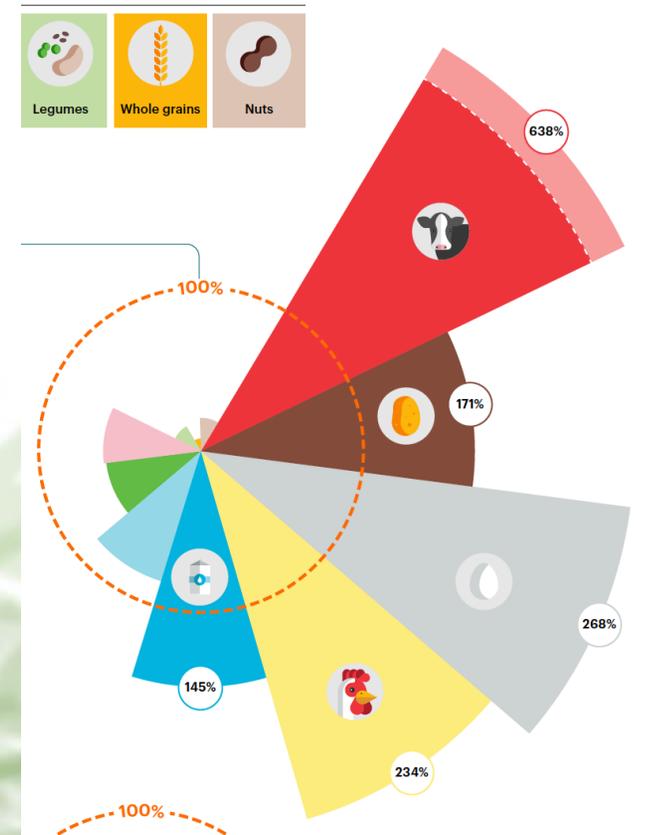
- CSA households are purchasing more organic foods
- CSA households more frequently support shorter supply chains

Purchasing food from:	CSA	Control
Large chain supermarkets	88%	94%
Budget large chain supermarkets	51%	54%
Local market, farm shops	35%	10.5%
Local independent shop, corner shops	33%	9%
Health food, vegan & zero waste shops	26.5%	1.5%



Health implications

1. CSA diets result in lower fat and sugar consumption
2. CSA-diet results in the kinds of changes needed to meet EAT diet guidelines: less meat and more vegetables and legumes.
3. These changes lead to healthier outcomes → both non-communicable dietary diseases (Diabetes Type II, cardiovascular disease and cancer) and infectious diseases (COVID-19)





Environmental implications

1. 29% lower CO2 emissions for the diets consumed by CSA participants compared to control group participants.
2. Additional reduction in environmental impacts → agroecological methods.
3. Agroecological systems are more resilient to both environmental and social shocks and stressors (FFCC 2021).
4. Other sustainability impacts include: organic production of meat, eggs and fresh produce, very low food miles and zero air miles used to transport food from farm to fork.
5. All of these elements contribute to greater climate resilience within regional food systems.
6. Health and environment: Co-benefits



Accessibility implications

1. Pre-COVID-19 pandemic: UK rates of household food insecurity for households with children 11% (Sosenko et al. 2019).
2. Since the pandemic: 14% (Food Foundation 2020).
3. 26.9% of households would need to spend more than a quarter of their disposable income after housing costs to meet the costs of eating according to the Eatwell Guide (Scott et al. 2018).
4. Food justice: a large percent of the population is unable to afford a healthy diet.
5. Healthier diets lower in CO2 emissions; BUT if these healthier diets are less affordable then a substantial proportion of the UK population cannot financially afford a diet lower in CO2 emissions → it will be far more difficult for the UK to reach its Paris Agreement commitments.



Policy relevance

Health

- Free up funding for CSAs, which are a successful model for enhancing social capital in the food system (can shift subsidies from large-scale land-owners to CSAs); payments for public goods

Environment

- CSAs—the impact of relationships in the food system on influencing sustainable behaviours

Accessibility

- People experiencing food insecurity reliance on food banks and charitable organisations has been critical; state mechanisms have not been sufficient
- Food inequality can be broached through the CSA model by subsidizing the system, e.g. voucher system, for low-income families can also access CSA produced food

Science & Environment

Is meat's climate impact too hot for politicians?

By Roger Harrabin
BBC environment analyst

14 October 2018

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Just a week after scientists said huge cuts in carbon emissions were needed to protect the climate, a UK minister has shown just how hard that will be.

Scientists say we ought to eat much less meat because the meat industry causes so many carbon emissions.

But the climate minister Claire Perry has told BBC News it is not the government's job to advise people on a climate-friendly diet.

She would not even say whether she herself would eat less meat.

Food Policy Alliance Cymru

A coalition of organisations and stakeholders building and promoting a collective vision for the Welsh food system

Through collaboration, engagement and research we aim to:

- Co-produce a vision for a food system in Wales that connects production, supply and consumption and gives equal consideration to the health and wellbeing of people and nature.
- Advocate for policy change to address climate and ecological emergencies, the public health crisis and the rise in food insecurity.



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Food Policy Alliance Cymru: 2021 Election Manifesto

Food System Commission

Within its first year of office, the next Welsh Government should appoint an independent, cross sector Food System Commission. This commission should be tasked with developing a roadmap to deliver a 'Food System Fit for Future Generations', aligned with the principles of agroecology. The roadmap should consider the following six priorities:

1

Food for all

Wales becomes the first nation to eliminate the need for food banks by 2025. Everyone in Wales has access to the food they need in a dignified way, in order to live a healthy life.

2

Food for public health

75% of Eatwell's recommended vegetable consumption is produced sustainably in Wales for Wales by 2030.

3

Net zero food system

Develop a plan by 2022 to deliver a net zero food system to ensure swift assessment and implementation of actions for Wales. The target is for Wales to have a Net Zero Food System by 2035.

The six priorities continued...

4

Farming for nature and climate

Create a roadmap by 2022 to adopt agro-ecological principles across the whole food system, including 100% agro-ecological production by 2030 on all farms in order to halt and reverse loss of nature and increase climate resilience.

5

Sustainable seafood

Setting catch limits (without further delay) which enable fish stocks to be restored and maintained above biomass levels that deliver the Maximum Sustainable Yield.

6

Sustainable food sector jobs and livelihoods

Everyone who earns their living within the food system receives, or is enabled to receive, at least the living wage or a fair return for their work. Work, whether on land or sea, is free from exploitative practices, and is varied, engaging and empowering.



Thank you!

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