



## Urgent recall

### Our food system under review

Our food system isn't working. Obesity is spreading globally and diet-related illnesses are the biggest killers in most higher-income countries. Harsh agricultural methods degrade our lands and both cause climate change and suffer from its consequences.

From horsemeat to salmonella, the consequences of an unaccountable and dysfunctional industry are never far from the headlines.

But the modern food system is widely seen as a triumph of science and economics. The Green Revolution saved countless thousands from death by famine. And consumers have never been more spoiled for choice of food products.

How can these two points of view co-exist? It comes down to the critical issue of how we understand 'success' in our food system. Lack of clarity on this basic question allows a proliferation of distorted views. Only by looking at the full picture can we start to work towards a food and farming system that everyone can recognise as a success.

#### How do we define success?

We must reinterpret success beyond the narrow confines of production and prices. The ultimate objectives of a food system, and the criteria by which it can be judged successful or otherwise, are:

- Wellbeing: how people experience their lives and flourish;<sup>1</sup>
- Social Justice: the fairness of the distribution of resources and outcomes in a society;
- Environmental stewardship: the safekeeping of physical systems that society depends on.

#### How do we measure success?

Our research has identified eight indicators, illustrating that a food system which delivers high **wellbeing, social justice**, and **stewardship** will:

1. have a neutral or positive environmental impact;
2. be productive in its use of energy and other inputs;
3. be diverse in species and genes;
4. support good jobs;
5. be dominated by short and simple supply chains;

- 6. be composed of assets that are controlled by a wide and inclusive set of stakeholders;
- 7. foster a positive and thriving food culture and the highest levels of public health;
- 8. make food affordable to everyone.

This framework is illustrated in Figure 1, which shows the three ultimate objectives and the eight indicators we use to explore them.

### Is the UK food system successful?

#### 1. Environmental impact

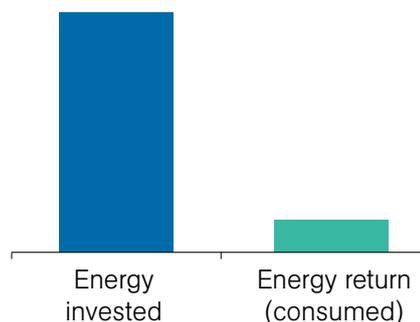
Our analysis suggests that the UK food industry’s environmental impact costs in the region of £5.7–7.2 billion per year. This is likely to be a considerable underestimate since several substantial impacts have not been monetised (particularly biodiversity loss, soil erosion, and water pollutants from industry). The total market cost of food to UK households was £90.8 billion in 2012; therefore, the estimated externalities represent roughly 6.3–7.9% of the market price of food.

#### 2. Productivity and energy use

In terms of energy returned (i.e., dietary calories) on energy invested (inputs in

production), the UK food system is highly inefficient, with a ratio of one calorie returned for every eight invested. The large discrepancy between energy inputs and outputs is a problem because the inputs we currently employ are dominated by fossil fuels, which are finite in supply and environmentally destructive.

Figure 2: Energy return on energy invested in the UK food system<sup>2, 3</sup>

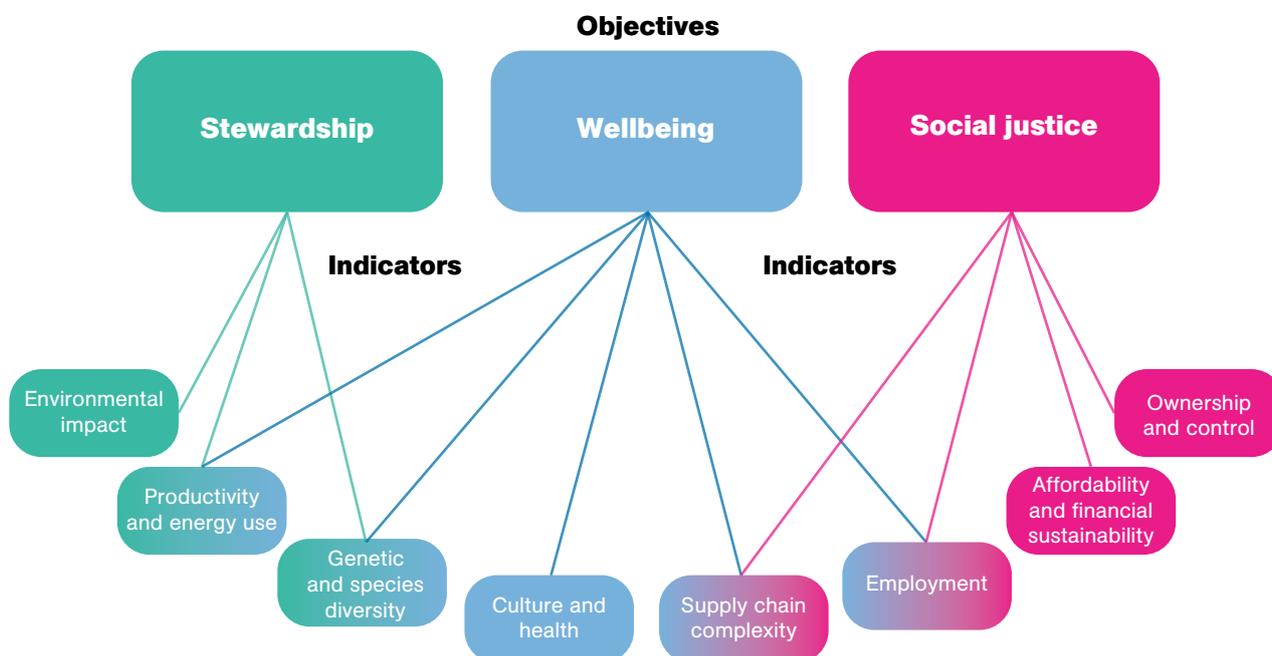


Source: Defra,<sup>4</sup> Eurostat<sup>5, 6</sup>

#### 3. Genetic and species diversity

UK crop production is highly concentrated in a small number of crop species. Defra has estimated that 100 out of 130 native breeds of poultry, cattle, sheep, goats, pigs, horses, and ponies are at risk as a result of increasingly homogenous farming.<sup>7</sup>

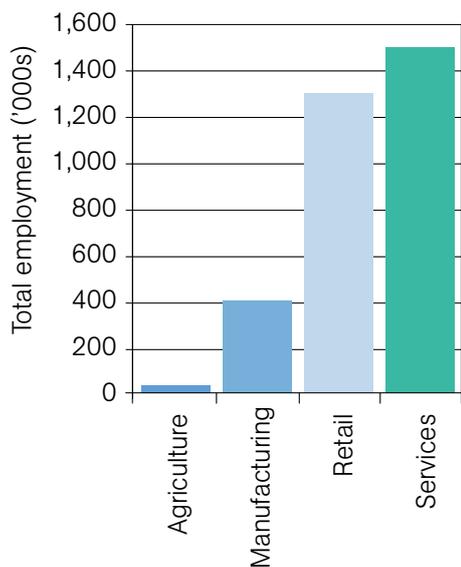
Figure 1: Objectives and indicators



#### 4. Employment

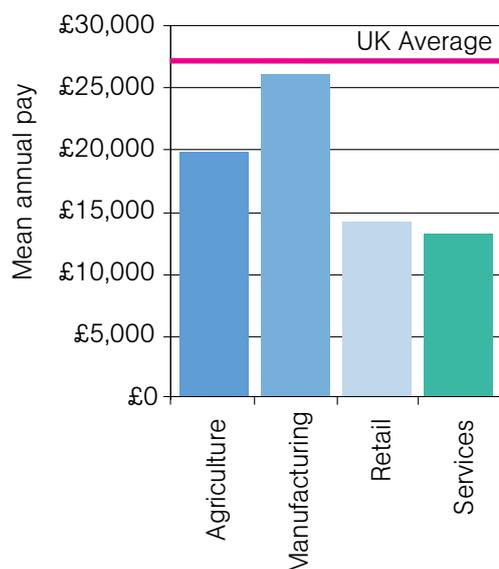
The UK food system employs approximately 11% of the UK labour force<sup>8</sup>, but barely a fraction of these people are farmers. The vast majority of food system workers are in the retail and service sectors – waiters, chefs, and supermarket cashiers. These people are also by far the least well-paid, with salaries less than half the UK average.

Figure 3: Employment in the food system



Source: ONS<sup>9</sup>

Figure 4: Mean gross annual pay in the food system (UK average is for all economic sectors)<sup>10</sup>



Source: ONS<sup>11</sup>

#### 5. Supply chain complexity

Short and simple supply chains are advantageous for a number of reasons:

- Transparency
- Consumer awareness of production
- Local economic benefits
- Less processing
- Better risk management

Both the decreasing share of total value going to farmers and recent events such as the horsemeat scandal testify to the extreme and increasing complexity of our UK system.

#### 6. Ownership and control

The ownership of land is distributed highly unequally in the UK.<sup>12</sup> A tiny proportion of the UK population – an estimated 158,000<sup>13</sup> people, or 0.25%<sup>14</sup> – owns the country’s 17 million hectares of agriculture land. In part this reflects the structure of the UK’s agricultural industry. The price of an acre of bare land stood at £7,754 in 2013, which has increased more than threefold from £2,400 in 2004.<sup>15, 16</sup>

#### 7. Culture and health

The biological process of bodily sustenance is invariably accompanied by a set of social phenomena that both influences our consumption and helps us to interpret what it means with respect to our place in society. This set of social phenomena – which we might refer to as food culture – has clear impacts on wellbeing through the way in which it affects both our physical and psychological being. There are a number of clear trends:

- when, where, and how we eat meals has changed dramatically;
- eating disorders are more common and highly detrimental to physical and psychological wellbeing;
- people are growing more of their own food;

- cookery books and TV shows remain a strong business;
- obesity is increasingly recognised as the greatest threat to public health now and in the future.

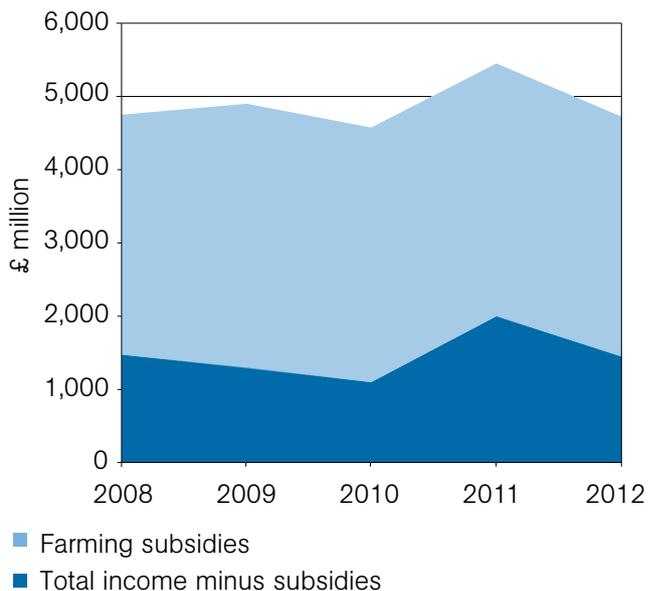
### 8. Affordability and financial sustainability

UK households have always spent a very small proportion of total consumption on food and drink on average (only wealthy Luxembourg spends a smaller proportion).

But this average masks significant differences across the income hierarchy. Lower income groups devote significantly higher proportions of their expenditure to food and are much more vulnerable to food price inflation, which has been particularly high recently.

In terms of profitability, there is significant variation between farms. Defra statistics indicate that around 10% of UK farms are unprofitable even when subsidies are included.<sup>18</sup> Certainly, this proportion would be greater if subsidies were excluded, since they make up a very large proportion of income.

Figure 5: UK farming income



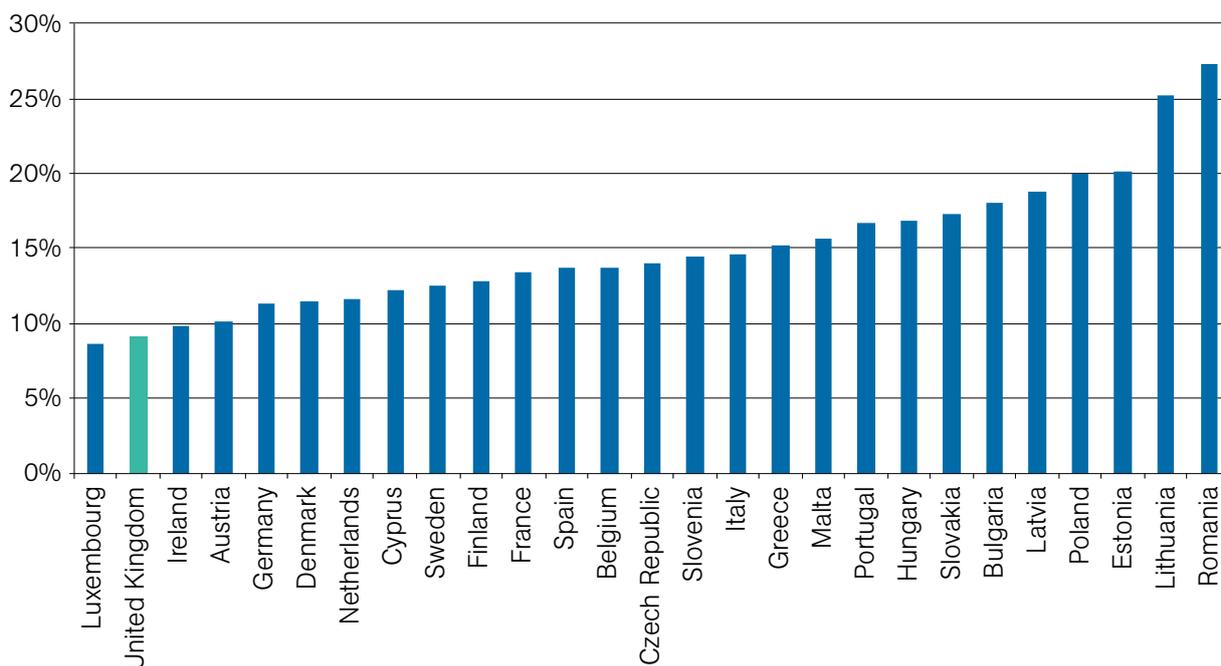
Source: Defra<sup>19</sup>

### European case studies of success

To understand what a successful food system might look like in practice, we looked across the UK and continental Europe for real-life examples.

In Germany we visited Josef Braun who produces food from his land with an almost

Figure 4: 2009 household expenditure on food and non-alcoholic drinks as % of total expenditure



Source: Eurostat<sup>17</sup>

entirely circular, resource-efficient energy system, with barely any external inputs. We were introduced to a pork supply business, integrated from producer to retailer that is re-establishing a rare local pig breed. And we were shown around a monastery in which the Benedictine monks have grown a successful business integrating their environmental and spiritual beliefs.

In Italy, we saw that farming in harmony with nature and economic success can work in tandem. Since 1980, La Selva in Tuscany has been producing organic produce and now sells in other European countries and online.

In Spain we heard from the yoghurt producers at La Fageda who set up with the intention of providing employment for locals with psychological disorders. In the process it has become one of the largest yoghurt producers in Spain.

Back home in the UK, we visited Organiclea in north London, a workers' cooperative producing organic fruit and vegetables in a sociocratic model of organisation. And we were inspired by the Blaencamel farm in Wales that encourages customers and visitors to indulge in the culture of food.

Innovative food systems that embody different concepts of success already exist and are thriving across Europe. Their only failing is that they don't conform to the dominant economic paradigm that rules our food system.

### It's all connected

While carefully scrutinising our food system itself is important, we must not forget the context in which it operates – it can both influence and be influenced by the wider socioeconomic system. For example:

- **Persistent and growing inequality, grinding poverty, and enduring unemployment** divide our society. A lack of financial means forces many to compromise on the quality and healthfulness of what they eat, propping up companies that provide these products. For others, choice is removed altogether

if assistance from foodbanks is required. Another, wealthier tranche of society can enjoy fresh, healthy, and increasingly green meals every day.

- **The distribution of working hours** – with most people either over-worked or underemployed – forces households to seek time-efficiencies, opting for fast food and ready meals and being unable to grow their own produce in gardens or allotments.
- **The public policy fixation on economic outcomes**, including GDP growth, crowds out alternative understandings of what matters for good lives. The non-monetary outcomes of systems, especially natural systems such as food and agriculture, are not used to the greatest advantage. Agriculture and food production could be powerful tools for social policy, for example.
- **A homogeneous model of privately traded assets with no controls** dominates our business environment and capital markets, resulting in a highly concentrated distribution of assets and, consequently, control over what gets produced and how. Incentives to consistently deliver on social goods are absent, except when they happen to coincide with private interests.
- **Persistent and ubiquitous market failures.** The standard analytical framework of supply and demand, perfect competition, and marginal incentives are simply not sufficient to understand how our food system functions in reality.

### The case for re-defining success

The dominant paradigm in which food system success is understood is outdated and flawed. Our food system is defective, because the way we understand it is defective. We should manage our food systems to support the greatest contribution to human wellbeing, in a way that is socially just and sustainable over time. We have identified eight practical indicators to assess whether existing food systems are conducive to these goals.

This re-defining of success paints a strikingly different picture as to how the UK food system is performing.

Including environmental externalities, the cost of obesity and subsidies paid through the CAP, we have estimated the total external cost of the UK food system to be between £11 billion and £26 billion. This means that our effective food bill is at least 12–28% greater than the price we pay at the till. By any standard, this hardly seems like a triumph.

### Learning lessons from the pioneers

Looking at a smaller scale, we sought out examples where food systems exhibited some characteristics of success, according to our indicators. We drew on a range of examples from the UK, Germany, Italy, and Spain to demonstrate that success is possible in various different ways. There are many lessons to be learned from these case studies.

- **Small-scale infrastructure is critical.** Many of the examples we looked at involve local processing facilities that sustained economic activity in the area and prevented it leaking away to centralised facilities. For example, the Domäne Mechtildshausen houses a small abattoir that serves not only the organisation but farmers from the surrounding area as well.
- **Circular, resource efficient systems are possible but require willingness to break with the status quo.** Where circular flows of materials and energy were built into the examples we looked at, they were remarkably successful but required innovative thinking and in some cases experimentation. For example, Josef Braun's pioneering circular energy system dramatically reduces his carbon impact while making him more secure.
- **Short and integrated supply chains can bring benefits for farmers and local areas.** In many cases there is a conscious effort to reduce the gap between consumers and producers, and not just in a physical sense. Many told us that engaging consumers and supporting local enterprise were key components of building strength and resilience for the long term.

- **The social benefits of employment must be recognised.** Many producers understand that, while hiring people costs money, creating jobs for certain groups of people has wider social benefits. La Fageda illustrates one example of what those benefits can look like – creating opportunities for people who might not otherwise get them.
- **Farmers and businesses can drive environmental change.** Many farmers make reducing environmental impacts a personal mission, though it's one that can also be good for their business. Some changes have a clear impact, such as reducing fossil energy use, but others need to be monitored more closely.
- **Alternative models of success have already achieved significant scale.** Examples such as La Selva, the Schwäbisch Hall Cooperative, and La Fageda illustrate that environmental and social outcomes are not mutually exclusive of economic success.

But these examples are the exception to the rule. Overall, it is clear that we are struggling to rid ourselves of an outdated understanding of success, leaving our food and agriculture systems in a state unfit for the long term. Different systems are possible, but we need to improve understanding of our ultimate goals and urgent action to move the system towards them.

### A transition towards a new food system

Changing our food system so that it delivers human wellbeing in a socially just and sustainable way will require action at multiple levels. As we have demonstrated, the existing socioeconomic context does not align the food system with these objectives. Ultimately we will need to change the rules of the game – that is, the policy, regulatory, and institutional framework in which we operate daily. As we see it, there are four key steps towards that end.

#### 1. Recognising true value

As we have argued, before anything else, we need to explicitly recognise and value the outcomes that we desire from a successful food system. We also need to recognise the links

between our economic system more generally (including the role of economics as a discipline) and the way the food system operates.

### *2. Developing and using new tools and metrics*

With a clear idea of success, we then need the tools that allow us to consistently and confidently determine whether and to what extent those outcomes are achieved. We have outlined eight indicators as an example of an alternative framework, but more work is needed to consider other options and operationalise them. Revealing how different systems create value can help guide public policy and, in particular, how to allocate public funds.

### *3. Building public support and organising a movement*

In parallel to the first two steps, we must ensure that the changes called for are the result of a genuine democratic demand. That must involve both making the intellectual and moral case for a transition and strengthening and combining the constituencies that will benefit from that transition. This includes not just producers who want to eliminate their environmental and

social costs, but also parents worried about the health of their children, communities that want to support good jobs in their area, groups that care about preserving wildlife and habitats, and individuals struggling to afford and prepare healthy meals every day.

### *4. Changing the rules of the game*

With an understanding of the outcomes we value, the tools to properly measure them, and support for a transition, we will then be in a position to make specific and deliberate changes to policy, regulations, and institutions that can align the food system towards those goals. An obvious target is the EU Common Agricultural Policy, which is one of the key determinants of the structure of the agricultural sector in all European countries, including the allocation of investment funds. But other areas may be equally important, though less obvious; for example, regulating the advertisement of food products, or controlling financial speculation in food commodities.

Read the full report: [www.neweconomics.org/foodsystemreview](http://www.neweconomics.org/foodsystemreview)

## Endnotes

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- Based on Farm Business Income: 'Farm Business Income (FBI) is the preferred measure for comparisons of farm type and represents the return to all unpaid labour (farmers, spouses and others with an entrepreneurial interest in the farm business) and to all their capital invested in the farm business including land and farm buildings. Total Income from Farming equals Gross output at basic prices plus Other subsidies less taxes less Total intermediate consumption, rent, paid labour less Total consumption of fixed capital (depreciation) less Interest.' Defra. (2013). *Agriculture in the United Kingdom 2012*. Retrieved from [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/208436/auk-2012-25jun13.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/208436/auk-2012-25jun13.pdf)
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## New Economics Foundation

[www.neweconomics.org](http://www.neweconomics.org)

[info@neweconomics.org](mailto:info@neweconomics.org)

+44 (0)20 7820 6300

@NEF

Registered charity number 1055254

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**Written by:** Stephen Devlin, Aniol Esteban,

Griffin Carpenter and Thomas Dosch

**Designed by:** [www.soapbox.co.uk](http://www.soapbox.co.uk)

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