In brief

“The challenge for us as a research community is to develop a nuanced understanding of the food industry, how it appears to importantly influence our diets and how we can influence what the food markets offer in the interests of public health.”

Professor Martin White
Centre for Diet and Activity Research, University of Cambridge

Diets in a changing world

How may our diets change in the future and what does an environmentally sustainable and healthy diet look like?

At a glance

Our third topic explore connections between health, wellbeing and sustainability and between January and March 2017, expert witnesses from the worlds of policy, research and industry helped us to explore questions related to the food we eat.

At the first meeting in January, we started by looking at how our diets may change in the future and ways in which these changes could impact the environment. In February, we turned to what drives the choices people make and in March, we discussed 'catalysing change' and the role that policy and advocacy could play in changing what people eat. This article provides an overview of these three discussions and some of the ‘wicked problems’ and questions they generated.

Taking a global view

There was general agreement across the three forums that when it comes to what constitutes a ‘good’ diet and its importance with regard to health, wellbeing and sustainability there is a large, albeit evolving, evidence base. There remain some outstanding areas to explore, such as determining exactly what nutritional factors are best for human health. Diet is a multidisciplinary and multicriteria problem, which Tim Lang, Professor of Food Policy at City University London's Centre for Food Policy, related to food quality, health, environment, social and cultural issues relating to diet, economics and governance. Charles Godfrey, Hope Professor and Director of the Oxford Martin Programme on the Future of Food at Oxford University, emphasised that health and the environment overlap and can have co-benefits, but exactly how these interrelate and how negative rebound effects can be avoided was a frequent discussion point.

There was also agreement that, overall, rapid change of the food system is needed for health and environmental reasons, although it was noted that in some instances maintaining the status quo in areas of good practice will be just as challenging. Dr Marco Springmann, from the Oxford Martin Programme on the Future of Food, asserted that animal-based diets are unhealthy and unsustainable, and that food production will exceed emissions targets if land change is also considered.

Catalyzing change

Dr Michael Obersteiner, the Program Director of the Ecosystems Services and Management (ESM) Program at IIASA - Institute for Applied Systems Analysis - in Austria, and others considered whether policy interventions should occur at the point of consumption or point of production. At the moment interventions are often at the supply end and changing our demands could have a greater impact. There was disagreement across the Forums as to which of these intervention points were most important; however, it was agreed that both were vital and could serve different purposes.

Key questions

Through our discussions, we identified four key questions where more research is needed:

- **How can we reach an understanding about what constitutes a sustainable and healthy diet? Should our approach be to create a global vision of this concept or to have regionalised versions that factor in local contexts?**
- **How can we communicate research in a way that influences individual behaviour and what people choose to eat? How do you unpick which factors ultimately have the most significant impact?**
- **What is the best policy approach to influence the choices people make?**
- **Can we apply lessons from marketing to public health interventions?**

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Policymakers often know the changes that can make people's diets healthier, but how to catalyse those changes is much less clear. There are very few existing models for large-scale interventions at the population or even community-level. Examples from other European countries and the US has shown that food and drink-related taxes are politically sensitive; subsidies can have unintended adverse consequences for the environment; certifications can lack a solid evidence base; and clear, effective food labels are hard to achieve. Modelling studies can examine the theoretical effect of policy changes and these also need to be 'ground-truthed' with information about how people behave in real life. Even when the correct policy approach is known, public opinion needs to be galvanised so that policymakers can be emboldened to enact interventions that can affect behavioural change. Professor Theresa Marteau explained that communicating evidence concerning the intervention can make it more acceptable to the public and suggested that the public sector could encourage behavioural change in advance of cultural shifts.

Whether policy interventions should occur at a population or individual level was also discussed. Dr Brent Loken, from the EAT Initiative in Oslo, suggested that the urgency of the issue meant that population-level changes were more effective and vital, but could be supported by interventions at other levels. Each population, and its demographic subsets, will require a different approach.

Making information easier to digest

It is hard for the public to access and absorb the complex information regarding diet, and as a result they become sceptical and revert to default practices. Although digitisation offers opportunity to convey information more effectively, health and environmental messages alone will not change our food culture: a holistic, systems approach is required. Bee Wilson, a food writer and historian, suggested that a change in approach is required. For example, people's malleable flavour preferences could be changed so that they actively enjoy healthy food over sugary treats. She and others recognised the importance of education as all levels, but especially at a young age, in changing our relationship to the environment and food production.

> ***"Instead of telling people to eat broccoli, make us like broccoli and then we won't have to be told."***
>
> Bee Wilson, food writer, journalist and historian

Looking at industry, there is scope to optimise agricultural practice, and this could cause beneficial indirect land-use change. Professor Martin White, from the UKCRC Centre for Diet and Activity Research (CEDAR) suggested that regulation was probably necessary in this area as voluntary commercial change had not been forthcoming, but this can have negative consequences if the cost is passed on to other areas. He argued that as things stand, the food and drinks industry has too much power, and the mechanisms by which public pressure on industry can be created needs investigation. Crucially we need to know more about how the food industry influences dietary choices.

There are many layers between researchers and the individual consumer, and research is needed into how messages can be communicated clearly so as to influence behaviour. Professor Sumantra Ray, the Founder and Executive Director of the NNEdPro Global Centre for Nutrition and Health in Cambridge, advocated the need for effective and trusted knowledge brokers, such as healthcare professions, that would help people to understand the evidence behind diets, and the research community needs to take an active role in this process.

With the rapid pace of urbanisation, these problems need to be addressed before they become unmanageable. A final thought considered whether policy change directly focused on the global food system was enough to catalyse significant change by itself or whether the status quo of other large-scale economic forces can lead to inertia in food policy.

The **Cambridge Forum for Sustainability and the Environment** was established in 2013 in the University of Cambridge. Chaired by Lord Martin Rees, it meets once a month, bringing together thought leaders from the worlds of research, policy and industry to talk about some of the great sustainability challenges the world faces in the future and the research pathways which will help to prepare for and address those challenges.

Secretariat: Prof. Paul Linden (Director); Dr Rosamunde Almond (Deputy Director); Dr Konstanina Stamati (Head of Partnerships and Development); and Simon Patterson (Content Writer and Editor).

Forum members for this topic were drawn from 21 Departments, centres and institutes and included: Prof. Alan O'Neill (Cavendish Laboratory); Prof. Alison Smith, Dr Mariana Fazenda and Prof. Howard Griffiths (Dept. of Plant Sciences); Prof. Andy Hopper and Prof. Ian Leslie (Computer Laboratory); Prof. Carol Brayne (Dept. of Public Health and Primary Care, Institute of Health); Prof. David Dunne (Dept. of Pathology and Cambridge Afria); Dr David Pencheon (NHS Sustainable Development Unit); Dr Emily Shuckburgh (British Antarctic Survey); Dr Erwin Reisner (Dept. of Chemistry); Dr Hildegard Diemberger (Dept. of Social Anthropology); Dr Jake Reynolds and Polly Courtice (Cambridge Institute for Sustainability Leadership); Dr Julian Huppert (Jesus College Intellectual Forum); Prof. Koen Steemers (Dept. of Architecture); Prof. Nick Wareham (UKCRC Centre for Diet and Activity Research); Prof. Peter Guthrie (Dept. of Engineering); Dr Rob Doubleday (Cambridge Centre for Science and Policy - CSaP); Prof. Roderic Jones (Dept. of Chemistry); Dr Shailaja Fennell (Centre of Development Studies); Dr Simon Beard (Centre for Existential Risk - CSER); Prof. Simon Redfern (Dept. of Earth Sciences); Dr Stephen Cave (Leverhulme Centre for the Future of Intelligence) and Prof. Susan Owens (Dept. of Geography)

We would like to thank everyone who took part in Forum meetings, especially the expert witnesses and guests who joined us from across and outside Cambridge and who contributed their time, knowledge and expertise:

Witnesses: Dr Michael Obersteiner (International Institute for Applied Systems Analysis - IIASA); Dr Marco Springmann (Department of Population Health, Oxford University); Prof. Sumantra (Shumone) Ray (MRC Elsie Widdowson Laboratory, University of Cambridge); Prof. Martin White (CEDAR); Bee Wilson (Food writier, journalist and historian); Prof. Charles Godfray (Oxford Martin Programme on the Future of Food, Oxford University); Prof. Tim Lang (Department of Sociology, City University of London); Dr Brent Loken (EAT Foundation, Oslo); Prof. Theresa Marteau (Behaviour and Health Research Unit, University of Cambridge)

Guests: Prof. Andrew Balmford (Dept. of Zoology); Dr Charlotte Sausman (Public Policy Strategic Research Initiative); Dr David Reiner (Judge Business School); Jacqueline Garget (Strategic Research Initiative in Global Food Security); Dr Jean Adams (CEDAR) and Nicola Buckley (CSaP).

From outside Cambridge: Prof. Charlie Kennel (Visiting Research Fellow, CSaP) and a number of CSaP Policy Fellows, including John Curnow (Defra); Julie Pierce, (Food Standards Agency); and Tom Hook, (London Borough of Barking and Dagenham).