Calling for a paradigm shift

Food Ethics Council viewpoint

There are enough ‘hockey stick’ graphs – of climate change, biodiversity loss, obesity and other negative products of the current industrial food system – to make the case for proper investment in long-term solutions and an appropriate, inclusive, ethical food and farming research agenda. Yet, the evidence has been ignored.

There is a lot known about our food and farming systems and their impact on people, animals and the planet. And there is a lot not yet known about them. While there is greater understanding of genetics of both crops and livestock, greater concern for farm animal welfare and improved awareness of how farming can have a positive impact on the environment, there is much to be deeply concerned about – the endemic exploitation, wastefulness, unsustainability, unfairness, self-interest and short-termism.

Much food and farming research is arguably supporting the current industrial food and farming systems quite satisfactorily. However, flaws in the current systems mean they are too often asking for research that delivers for private gain, rather than public good. The scientific quality of UK food and farming research is recognised to be high, but the issue is what is researched and how the use of its products are regulated.

While industrial food system research has delivered benefits for some, it also has a number of aspects that many would consider undesirable:

**Failure to address fundamental ethical questions** – Those driving the research and industrial innovation agendas, in both the public and private spheres, are too often operating without addressing ethical questions about the wider purpose of the research and what its social and environmental implications are. Often the only ‘ethical concern’ explored in research proposals is whether the research has potential for immediate harm to humans or livestock. While it is of course important to consider likely immediate harm from research, it is also important to question what impacts the research will have on our food systems and society more broadly. The latter should be a critical factor in shaping what research is funded.

**A narrow agenda** – The narrow productivist mantra dominates the top line aims of research and shuts off opportunities for other enlightened food and farming research, due to a number of ‘lock-ins’. As Pat Mooney writes in IPES-Food’s ‘Too Big to Feed’ (2017):

“While the volume of R&D spending in the agrifood sector may be high, the scope remains strikingly narrow. The consolidation and privatization of R&D budgets has focused innovation on a narrow range of crops, technologies and approaches, creating path dependencies that detract from research on traditional crop varieties or social innovation strategies.”

**Undue corporate influence** – on the research agenda, and associated legal, political and other measures which prevent more progressive research happening. Private and publicly funded research is becoming more and more imbalanced, with reduced publicly-funded research increasingly serving the interests of agrochemical and seed companies that have much larger research budgets. The public R&D spend for the UK is largely restricted to the ‘discovery’ end and not the applied end of research, which is instead mostly left to the market. This gives control to the large multinational corporations whose views feedback the ‘targets’ for the innovation research. This perpetuates the R&D agenda being for the industrial food system. This is concerning given that BBSRC now has control of some of the UK’s aid budget, as it may mean research is more likely to be targeted to issues that coerce smallholders into industrialised production systems and related food chains rather than in support of their biodiverse and ecological, localised food webs. There is also a widely held, elitist view that applied science is ‘derivative’ (i.e. not discovering anything new), hence not considered to be ‘good science’ and
therefore not suitable for funding by UK research council committees.

Unacceptable opaqueness – There is a lack of transparency and in some cases ‘murkiness’ over many different aspects of research. Without open access to information about priority setting and related discussions, it is not possible to have inclusive decision-making involving the wider public. This would include, for example, online access to all the papers for the BBSRC’s Advisory Panels and/or future UKRI Advisory Panels. That might seem inconsequential at first glance, but these documents being unavailable for public scrutiny is hugely important, as it sets the tone and begs questions about transparency and openness.

Questionable assumptions and interpretations - Much current research is based on misplaced or questionable underlying assumptions, such as the oft cited ‘food production has to increase by 70% by 2050’. It is also the interpretation of these which is often problematic and led by those with vested interests. For example, one interpretation amongst agri-food businesses has been that increasing yields is the way to meet expected demand, rather than also by addressing the use of much of this ‘food’, food loss, food waste and changing diets.

Undue emphasis on immediacy and scientists’ short-term publication requirements, at the cost of supporting longer-term approaches with greater citizen participation in agenda setting. The latter is a relatively recent phenomenon, but vital. The nature of that participation is also hugely important. ‘Partnering’ with other multinationals along the supply chain which often ends up only benefitting the major corporations themselves, is not ‘participation’ in the sense used in this magazine.

A neo-colonialist approach to research that is considered suitable to other countries and continents - Imposing an inappropriate industrial paradigm of research, including a focus on biotechnology and genomics, on the UK’s overseas partners. At present there is not enough support for the real needs of smallholder farmers, particularly in the Global South. Smallholders need to be protected and to be given access to relevant research (e.g. agronomy). However, critically the research needs to be appropriate to those smallholders and farmer-led, not imported from the UK’s largely industrial food and farming systems.

The good news is that there are alternatives to the ‘status quo’ industrial research paradigm, examples of which are in the pages of this magazine. A progressive research agenda needs:

- Serious investment in transformational food, farming, health and environmental research – to benefit the world’s main food producers (particularly small-scale), citizens (food eaters), animals, the environment and future generations – in both the UK’s international research footprint and at home. This is even more important for the UK as it begins the process of leaving the EU and its research and innovation programmes, like Horizon 2020 and its successors.

- Research that is proportionate to the scale of the challenges faced – Food and farming research must help us develop urgent responses to the ‘knowns’ of climate change, biodiversity loss, obesity, hunger etc. and build social and environmental resilience for the unknowns.

- A paradigm shift towards agroecology and other approaches that value people, the planet and animals – and a framework and political will to shift future research in that direction.

- UK’s international research footprint to support farmer-led research, including farmers’ informal and biodiverse seeds systems and peasant agroecology, which feed the majority of people in the world. Research to enhance smallholder farming systems should be aimed at what the smallholders want, not imposed from industrial food systems.

- Radical transparency – including from key research councils (and in the future UKRI) on funding, potential conflicts of interest, agenda setting processes and underlying assumptions. There will often be an element of research bias, but as long as there is openness and the biases can be contested, then that is less of an issue.

A genuinely inclusive and open approach – including farmer-led (particularly by small-scale and biodiversity-enhancing farmers) and community-led research – and citizen science done well. As we at the Food Ethics Council wrote in our ‘Just Knowledge’ publication (2004): “The ethics of science and technology – the values and assumptions that get built in during research, innovation and regulation - must be opened to greater public scrutiny and challenge.”

- The products and intellectual content, and their derivatives, of (especially) publicly-funded food and agricultural research to be kept in the public domain. We need publicly-funded research to support smaller scale agriculture, otherwise it is always going to be the industrial food system that benefits. We also need to ensure that the world’s, mainly smaller-scale, food providers have rights to the resources they require to sustain production, including being able to retain access to and control over their biodiverse seeds through international recognition of Farmers’ Rights.

- Proper application of the precautionary principle. It is particularly important post-Brexit that the UK has effective and appropriate levels of regulation in place, especially for technologies used in food and farming, including new biotechnologies such as synthetic biology and gene editing.

- A proper way to measure effectiveness of research. Too often research ‘success’ is measured by the number of peer-reviewed academic papers or number of patents / IPRs granted, by growth in productivity yields alone or by securing matched corporate funding, rather than measuring how it improves wellbeing and the environment. In the food and farming context, critically measuring research effectiveness should include how a piece of research is likely to contribute to fair, healthy, sustainable and humane food and farming systems.
For whom? Questioning the food and farming research agenda

There are key questions that those setting and conducting research should ask of every proposed piece of research. These include:

- How could the research accelerate the shift to fair and sustainable food systems?
- What are the underlying assumptions? What lies behind or under the declared top-line aims of research such as to ‘Feed the World’, ‘Tackle Climate Change’, and so on?
- Who is funding the research?
- Why is the research being funded? Who really wants the research to be done and who gets the immediate benefit, including financial benefit? And is that benefit fairly distributed?
- How can those likely to be affected by the research (e.g. farmers or citizens) be genuinely involved in shaping it?
- What are likely (intended and unintended) consequences of the research? What will it mean for (particularly small-scale) farmers, animals, environment, citizens, future generations…?
- What options are foregone by taking the route that the researcher selects?

It is not enough to ask these questions. Answers to the above questions need to be taken seriously, not simply treated as ‘window dressing’ when it comes to funding decisions on future research.

April 2018 is the start date for the UK Research and Innovation (‘UKRI’). It is also the tenth anniversary of the International Assessment of Agricultural Knowledge, Science and Technology for Development’s (‘IAASTD’) publication of its 22 ‘Findings’. What happens in the next decade is critical. The Brexit context provides a new opportunity to transform the way UK food and farming research is done for the public good at home and overseas. We urge all those involved in food and farming research to take responsibility for this much-needed transformation. We require an inclusive research setting process, a transparent research agenda and the application of socially and environmentally enhancing research that contributes towards food systems that provide for the needs of people, animals and the planet. Questioning for whom food and farming research is carried out is a first step towards this transformation; the next step requires ethical actions.

1 IPES-Food (2016) ‘Uniformity to Diversity’ publication describes “the key mechanisms locking industrial agriculture in place, regardless of its outcomes; it is these cycles that will need to be broken if a transition towards diversified, agroecological systems is to be achieved. Some of these ‘lock-ins’ relate to the political structures governing food systems, some concern the way agricultural markets are organized, and others represent conceptual barriers around the way questions are framed. Each represents a vicious cycle locking in industrial agriculture, as well as a potential entry point for change.”

2 In many cases, the answer is the taxpayer via research council funding.