

Discussion Session 3 – Food systems impact

Associate Professor Martindale's highlighting of the positive correlation between wealth and food waste interested the audience. In particular, seeing food waste through the new lens of the quantities of nutrients wasted was striking. There was also some questioning of why food waste is still such an issue, given that it is not a new concept.

One attendee stated that we do not have a culture of worrying much about waste, and a lot of our food waste decisions will not be consciously made. We often purchase more food than we need in this country, heightening the risk of waste. Overconsumption is another form of food waste that is prolific in New Zealand.

There was interest in whether the figures stated for food waste in the UK would also apply to New Zealand. What are the main foods wasted in this country and why? Is our food waste increasing or decreasing over time? What happens to food once wasted? Further, where in the supply chain does the most food waste occur: production, transport, retail, or the consumer? It was suggested that the removal of 'best before' labels and retention of 'use by' dates is one way that retail can address consumer food waste.

It was suggested that our high-quality food export economy also contributes to waste, for example through the grading of fruit. One attendee asked whether local food production reduces waste, while another was interested in the impacts of food processing on food waste.

In answer to Professor Martindale's assertion that wealthier countries can afford to waste food, one attendee asked what the true cost of this waste is, and whether it would still be considered affordable with full economic, environmental and social costing taken into account.

It was noted that Australia is focussing on food waste using a systems approach, but it was not apparent whether New Zealand was doing the same. It was acknowledged that New Zealand is very good at redistributing unused or unsold food to those who need it, largely through non-profit organisations. A suggestion for addressing food waste with a more holistic approach was the use of block-chain tracking technology, which captures the nutrient density of food, their environmental credentials and identifies opportunities to redistribute the right foods to the places they are most needed. The impressive modelling and scientific capabilities now available should be leveraged to better inform producers and consumers on the impacts of their choices.

From a consumer perspective, many attendees wanted to know more about how we might reduce consumer food waste in a way that would be accepted. Is more data the answer to addressing overconsumption and consumer behaviour, or education? There was some debate as to whether waste reduction can be successfully addressed by the consumer, or whether top-down approaches are necessary.

Final comments included the link between Professor Martindale's talk and Professor Van Zanten's: the role of food waste in circular agriculture is clear. One attendee asked: which is the bigger problem, waste or affordability of good nutrition? Should our attention be prioritised as such?

Dr Ledgard's talk made it clear to the audience, as shown in the discussion, that environmental footprinting of foods is a challenging topic. Different methodologies, terminologies and

definitions abound, and clarity on these really matters for the understanding of the non-expert.

Dr Ledgard presented a number of metrics and ways of examining life-cycle analysis data, leaving the audience asking which metric should be used. Should we consider production or consumption footprints? What functional unit should be used for different food products? The use of protein as the functional unit makes sense for meat or beans, but not for tomatoes, as demonstrated by the speaker.

Where are the correct boundaries for an assessment? Does the environmental impact of food produced in New Zealand but consumed in Europe need to be attributed here or there? How much of the on-farm activity and its environmental impact can be attributed to a food product? What are the differences in conclusions when we consider the impact of national production averages versus local production impacts? Ultimately, if we can't agree on the correct metrics to use, then it will be very hard to agree on the costs and benefits of proposed changes in the future.

Other attendees emphasised the need to consider the footprints of diets, not just individual foods. Another important inclusion was food processing, and packaging, each of which has its own footprint.

There are many environmental impacts of the food system, and while Dr Ledgard covered several, there are more, such as biodiversity loss. Most of the existing impact data is from Europe and developed countries – what would happen if we had a clearer idea of the footprints from the rest of the world?

The audience appreciated the presentation of impact data in new and interesting ways, particularly by using different functional units. Some thought it would be interesting to see these data with bioavailability and nutrient quality included. Others believed that would be taking the analysis further than would be useful.

Environmental labelling of food products was discussed at length by the delegates and agreed to be fraught with challenges. The speaker showed that there is much information that could be conveyed. However, inconsistencies or inaccuracies could lead to misinformation for the consumer, and too much information would quickly become overwhelming. For example, how will a consumer differentiate between a 'carbon zero' claim being achieved via offsetting versus one achieved by addressing carbon emissions on farm? Any labelling that is introduced would need to be readily understandable, and locally relevant.

Overall, there was an agreed need to approach the environmental question from both a short-term and long-term perspective: what will be the impact of an activity this year, in ten years, and in centuries to come? There was also the challenge in New Zealand of our great vested interest in agriculture, which can cloud the analysis of environmental impacts. The footprint of New Zealand agricultural products is very good in comparison to the rest of the world, but we cannot aim to simply be 'the best of the worst'.

*Discussion summaries were collated by Dr Nick Smith, based on written notes collected from the tables in the room and video recordings of the facilitated discussion sessions on the day.