

# Special Issue Editorial: food loss and waste

*Ben Bennett*

Goal 12.3 of the United Nations (UN) Sustainable Development Goals (SDGs) calls for the world to ‘halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses’ by 2030 (see <https://sdgs.un.org/goals/goal12>). It is not the first time the world has set itself targets to reduce food losses. In 1975, US Secretary of State Henry Kissinger proposed a goal for the UN Development Programme and World Bank to ‘halve postharvest losses by 1985’, and the UN General Assembly adopted this proposal (Bourne, 1977: 3). In the 1970s, our knowledge of the real cost of food loss and waste (FLW) was confined largely to guesswork because there was almost no loss measurement going on and certainly no consensus on how global losses might be measured. Fundamental questions such as where in the chain losses occur, who accrues the cost of these losses, and what the wider environmental and societal impacts are of food that is produced but not consumed were moot then and are still opaque now. The persistent use by commentators of a catch-all ‘more than 30% of all food is wasted’<sup>1</sup> does not help when it remains a generalization.

Calls for measuring and reducing FLW get louder, but it seems progress has stalled. The latest SDG progress report estimates that 13.3 per cent of food is lost after harvest and 17 per cent within households worldwide, and that this metric has not changed since 2016 (UN, 2022).

A recent recognition of the role of FLW as an integral element of a more complex and nuanced food system sitting within environmental, nutritional, and social contexts has opened new and exciting pathways for research and, more importantly, action. Issues of agency are coming to the fore; for example, how far is it possible for actors in the chain of value to use their power of consumption choice to drive changes (WWF, 2022: 26)? Adopting a food systems approach highlights links between our wasteful production and consumption and other major issues such as habitat loss.

The exciting thing about FLW is the potential of a cure for this curse to be win-win, tackling systemic and existential problems whilst creating new jobs and greater business value. The current global financial crisis brings new perspectives for better resource use.

This special issue looks at the theme of FLW from a range of perspectives that highlight the challenges faced by enterprises and the opportunities for policymakers.

First, Apurba Shee et al. consider the FLW measurement ‘conundrum’. How do we tackle FLW if we cannot measure it? What are the best available measurement tools for different food chains? Whilst there have been global efforts to define FLW to allow comparison (WRI, 2016), the methods and approaches adopted to undertake measurement are still highly varied. It is shocking to realize how much of our knowledge on FLW is based upon very crude, user-experience type surveys that ask farmers, businesses, and consumers to answer the question

‘what percentage of product is lost or wasted?’. Worse still, FLW measurements are usually aggregated from relatively small samples to national levels using, for example, small farm production information or micro-enterprise data of very dubious quality. Adding this aggregation to highly variable nutrition information compounds the problem. In a way, it’s a high-end issue, because the FLW ‘problem’ is almost certainly overstated and high starting figures give greater scope for big impacts from interventions. The authors make an important observation about the inherent developed country bias in FLW data. We know more about FLW in developed countries, particularly waste, because of a flurry of recent household surveys, but production and consumption profiles are hugely different in less developed economies (see Hodges et al., 2011).

Data at the household level is uncommon, particularly in low- and middle-income countries. There is clearly a cultural and developmental aspect to consumers’ relationships with food and its waste. Ana Gimenez addresses this gap for Uruguay using a food-waste diary approach. Whilst this methodology used in isolation has been criticized (see Quested et al., 2020), what is, I think, most important is that countries start conversations about their own FLW challenges based on real domestic data. Behavioural change is so grounded in cultural specificity and place; all evidence builds towards a picture of and discourse on improvement.

The flip side of managing FLW in chains and households is packaging. To explain, packaging is a great success story, giving consumers choice and often the ability to buy more cheaply at scale. However, it has caused a massive global tidal wave of plastic waste. Nowhere is this more obvious than in the fast developing and urbanizing mega-populated nation of India. Ravi Kumar et al. explore the nexus between reduced FLW and increased plastic waste in this context and compare government response interventions across a number of geographies. The result is a useful classification of the policy tools that might be used to tackle the challenge.

Finally, Tanya Stathers et al. take a food systems approach to FLW and its environmental impact using the example of maize in Malawi. They draw some important conclusions that might help us generate more effective research questions built on a clearer understanding of the key systems-level trade-offs and propose a (preliminary) framework for food systems analysis with FLW at its core.

It is good, I think, to finish in the complex and multidimensional space of food systems. What this small sample of papers suggests is that we cannot ignore the interconnectedness of our food system, our planet, and our health. Apart from a call to arms, this also suggests that a new enterprise space has to emerge around a more cyclical economy and that hard decisions will be needed about who within the chain bears the cost. Traditionally, in food chains, real costs are driven back to farmers unless they have genuine political power. This tells me that the way forward in the analysis of FLW will need to include an additional layer of political economy. Given that power is unevenly held and historically founded, academics also need to grasp the challenge of de-colonizing our future FLW efforts.

*Ben Bennet*

## Note

1. See, for example, Labs (2022).

## References

Bourne, M. (1977) 'Post harvest food losses – the neglected dimension in increasing world food supply', *Cornell International Agriculture Mimeograph* 53 <<https://ecommons.cornell.edu/handle/1813/28900>>.

Hodges, R., Buzby, J.C. and Bennett, B. (2011) 'Postharvest losses in developed and less developed countries: opportunities to improve resource use' <<http://www.bis.gov.uk/foresight/MediaList/foresight/media%20library/BISPartners/Foresight/docs/food-and-farming/science/11-561-sr15-postharvest-losses-and-waste>>.

Labs, W. (2022) 'Food loss & waste: it's everywhere in the supply chain', *Food Engineering [website]* <<https://www.foodengineeringmag.com/articles/100704-food-loss-and-waste-its-everywhere-in-the-supply-chain>>

Quested, T., Palmer, G., Moreno, L., McDermott C. and Schumacher, S. (2020) 'Comparing diaries and waste composition analysis for measuring food waste in the home', *Journal of Cleaner Production* 262 <<https://doi.org/10.1016/j.jclepro.2020.121263>>.

United Nations (2022) *The Sustainable Development Goals Report 2022*, UN, Washington DC <<https://unstats.un.org/sdgs/report/2022/The-Sustainable-Development-Goals-Report-2022.pdf>>.

World Resources Institute (WRI) (2016) *Guidance on FLW Quantification Methods. Supplement to the Food Loss and Waste (FLW) Accounting and Reporting Standard, Version 1.0*, WRI, Washington DC <[https://flwprotocol.org/wp-content/uploads/2016/05/FLW\\_Protocol\\_Guidance\\_on\\_FLW\\_Quantification\\_Methods.pdf](https://flwprotocol.org/wp-content/uploads/2016/05/FLW_Protocol_Guidance_on_FLW_Quantification_Methods.pdf)>

WWF (2022) *Land of Plenty: A Nature-Positive Pathway to Decarbonise UK Agriculture and Land Use* <[https://www.wwf.org.uk/sites/default/files/2022-02/WWF\\_land\\_of\\_plenty.pdf](https://www.wwf.org.uk/sites/default/files/2022-02/WWF_land_of_plenty.pdf)>