
Household food waste: a conceptual framework

Tom Quested

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Introduction

- This presentation builds on talk in previous seminar by Andrew Parry
- Discusses complexity associated with generation of food waste in the home
- Explores ways of conceptualising household food waste...
- ... and how these conceptualisations link to other food-related topics

The Challenge

- To get from individual instances of food waste (see example on the next page)...
- ... to a more general understanding of the types of food wasted, the reasons for this waste and how to help people to generate less waste...
- ... without losing important details

A Quantum of Food Waste

“The story of the gherkins, what a tale. They were purchased as an ingredient for a fish pie, but that was sort of the smallest jar we could find, but we didn’t need all of the gherkins in the jar. [...] They were in the fridge for quite a while and on the jar I think, I would say about two months after opening and using half of them, and then I just sort of like looked at the jar, noticed they were in there, looked at the jar and it said you know please consume within two weeks or something of opening the jar. So I thought I would chuck them out.”

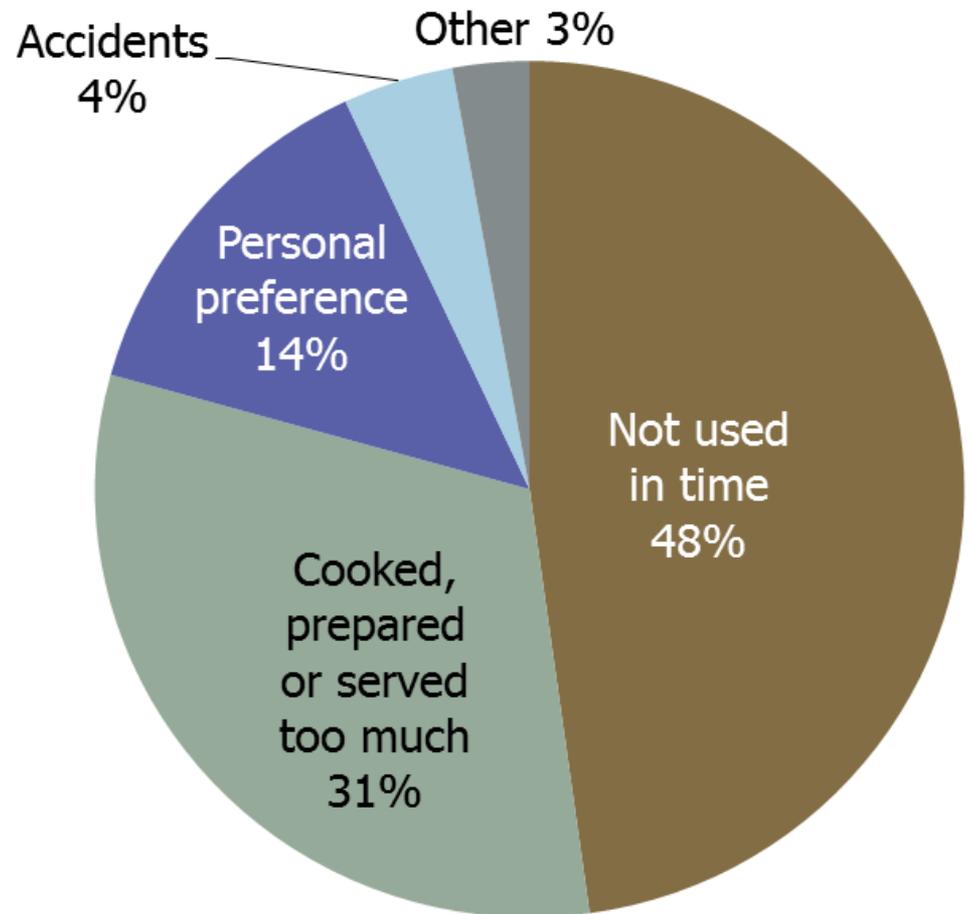
A Quantum of Food Waste (2)

- Previous example gives the story of one item of food that was thrown away
- Illustrates that factors contributing to its being thrown away include:
 - Those relating to its sale (i.e. size of jars of gherkins available)
 - Those in the household (opportunities to use the remaining gherkins before they went off)
- How do we say something general about the billions of items thrown away by UK households each year?

Reasons for avoidable food waste

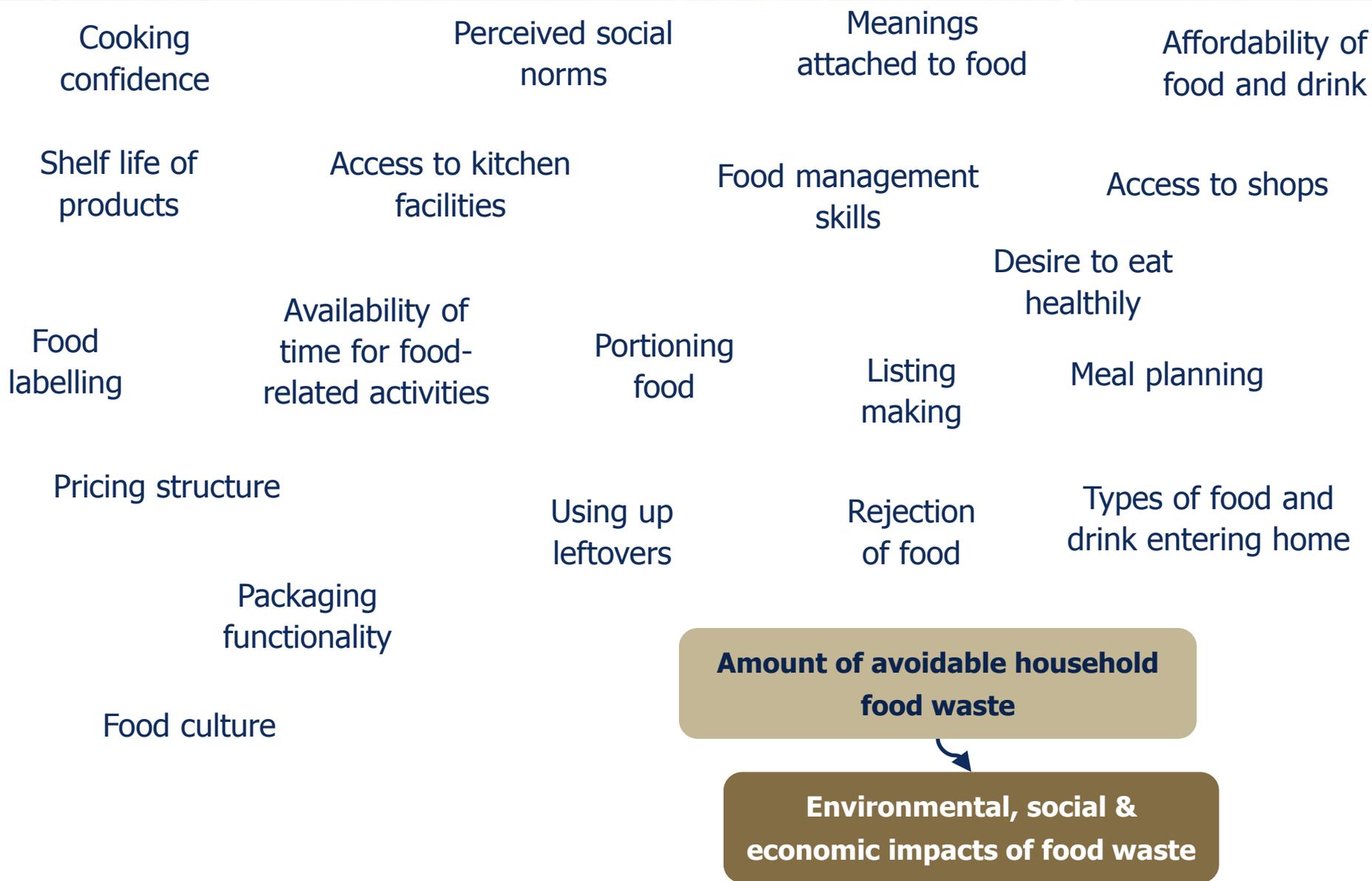
The reasons are all quite different, with very different 'solutions' to tackle each:

- 'Not used in time' covers items that have passed their date label or otherwise gone off
- 'Cooked, prepared or served too much' are essentially leftovers
- 'Personal preference' is dominated by people rejecting food (fussy eating)
- 'Accidents' includes food dropped on the floor and burnt food



Multitude of influencing factors

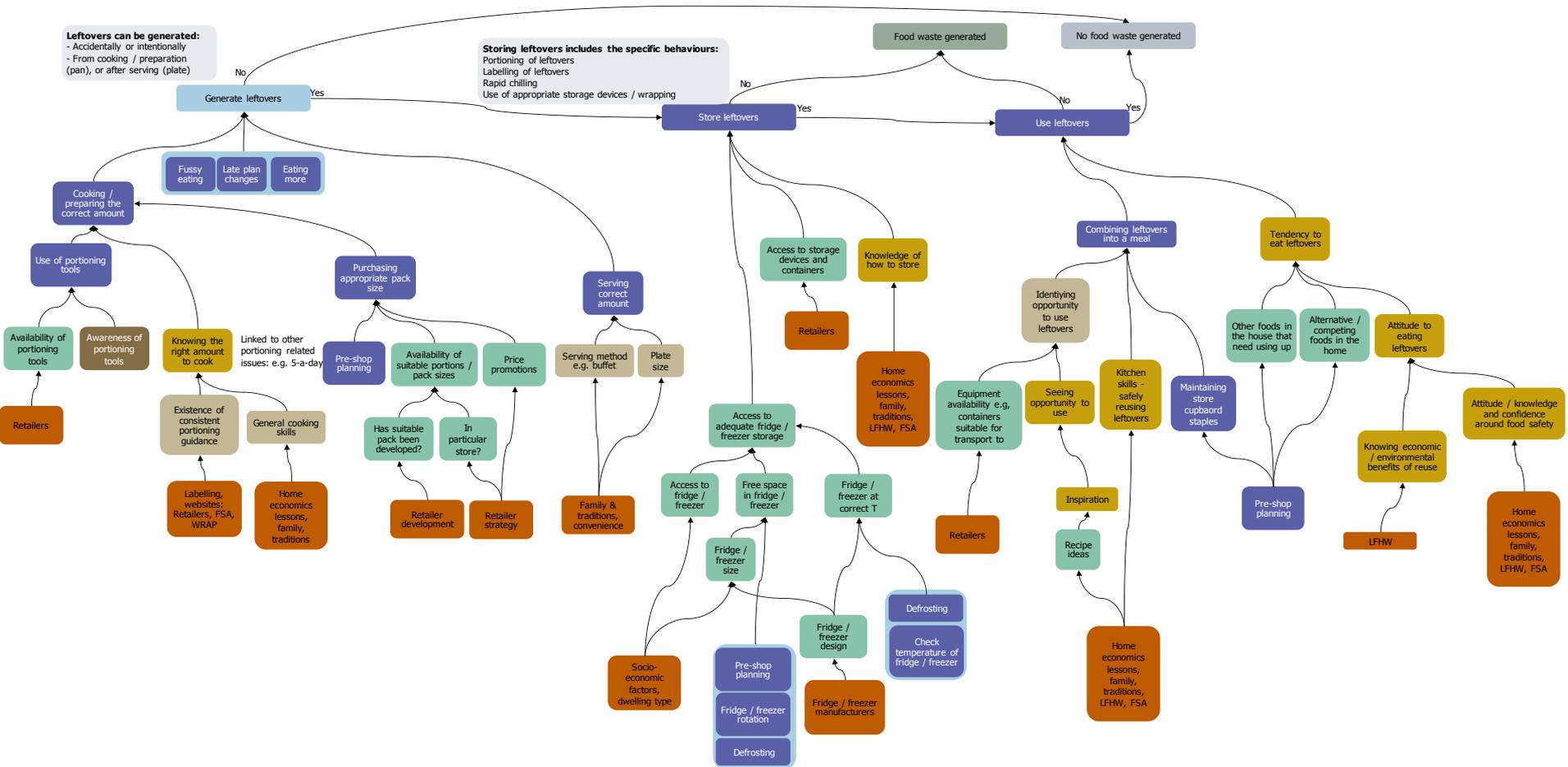
- The following slide presents a small proportion of the factors that could influence food being waste in the home
- Not all of these are equivalent – some relate to knowledge, other to skills, some are behaviours or activities in themselves, etc.
- The directness with which each influences food waste varies greatly and depends on the context within individual homes



Systems thinking applied

- Despite this complexity, the following slide shows that by applying techniques such as systems thinking, it is possible to understand how different factors interrelate
- This can help in developing a shared understanding of how and why food waste is generated in the home...
- ... and how to help reduce the amount generated
- It also illustrates just how many factors are in operation relating to one reason for food being thrown away (and why you can't see read the text when placed on a slide!)

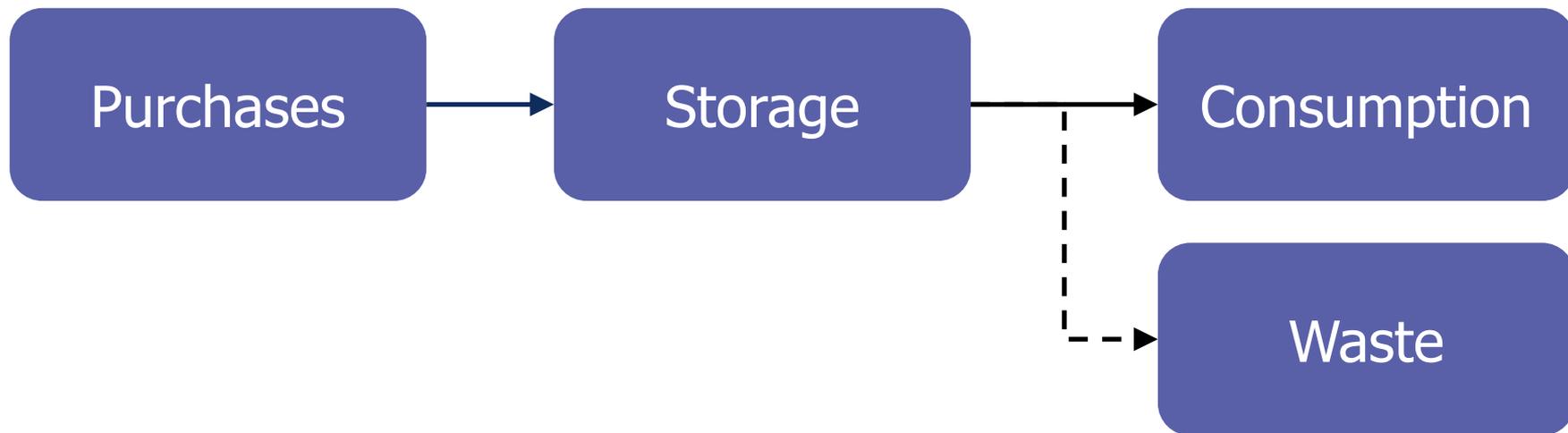
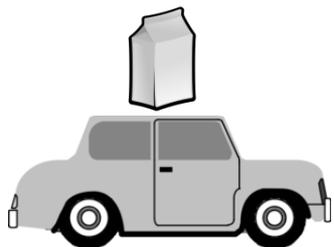
Applying systems thinking...



The Milk Model

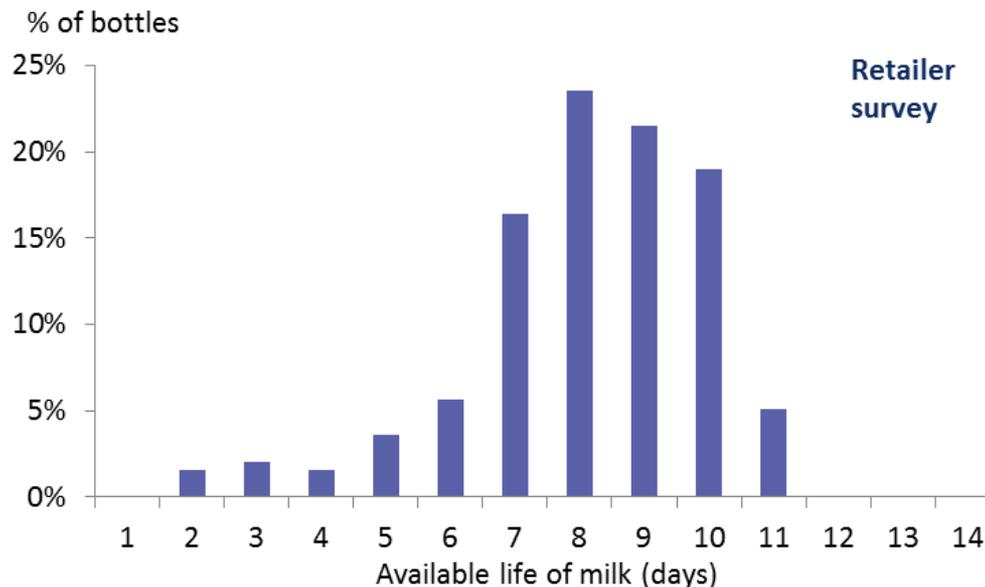
- There are many pieces of research that have helped develop ways of conceptualising food waste in the home
- Application of social practices theory to this issue has been beneficial
- This theory was highly influential in the report: *Household Food and Drink Waste: A People Focus*
- Simulation of food items' journey through the home has also helped explore food waste, as in The Milk Model
- This investigates how decisions relating to food purchasing, storage and consumption can influence waste...

The Milk Model



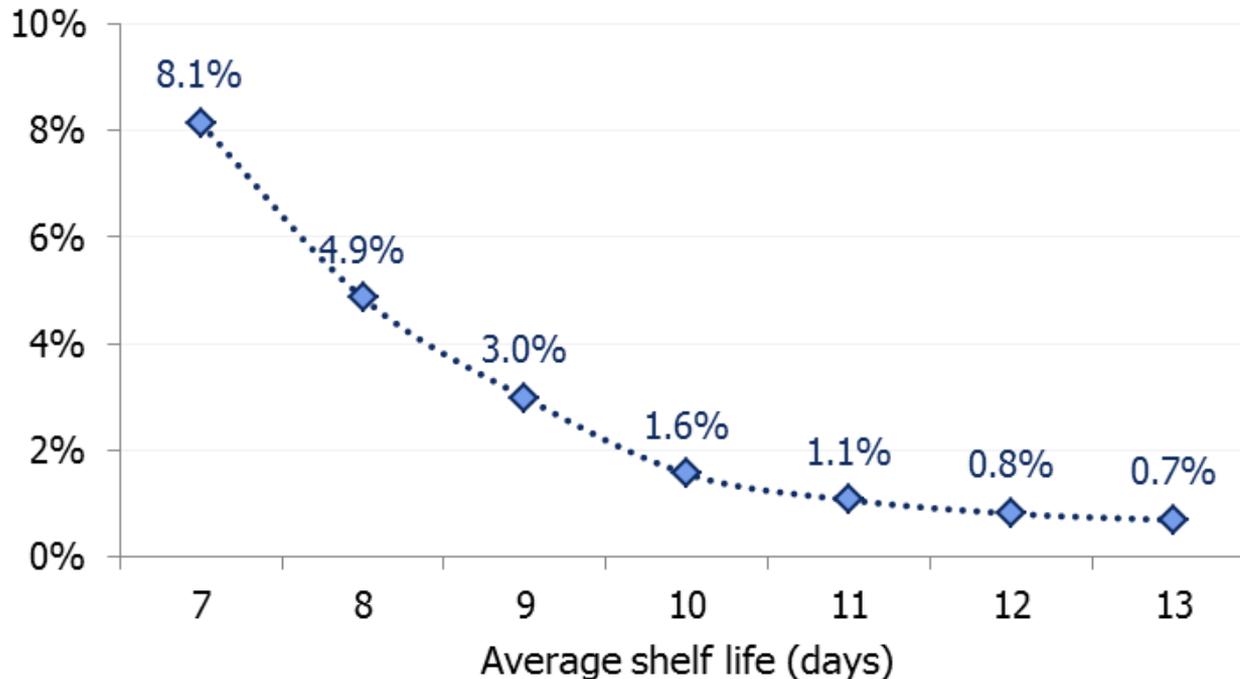
Inputs to the Milk Model

- The Milk Model provides a framework that allows a wide range of evidence relating to food waste to be combined and explored
- This evidence includes what people do in the home (i.e. from social research) and what products are bought and their attributes (e.g. their shelf life, as illustrated by the distribution below)



Milk Model results: effect of shelf life

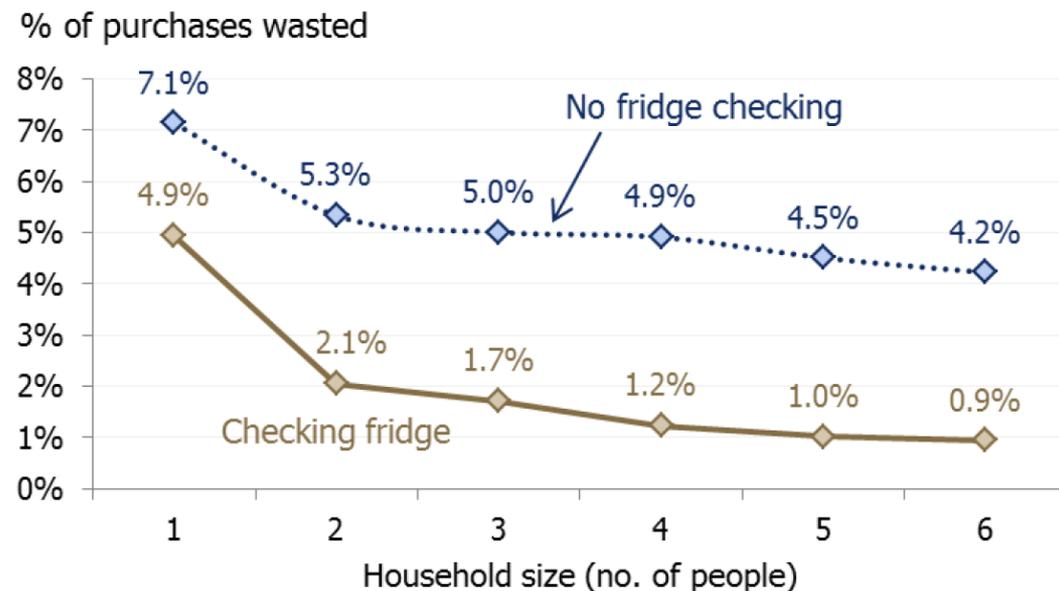
% of purchases that are wasted



- The indicative results to the left illustrate the extent to which waste could be reduced by increasing the average shelf life of milk bottles

Effect of checking the fridge before shopping

- The benefit of specific activities can be assessed, such as checking the amount of milk in fridge and reducing the amount of milk bought accordingly (see right)
- The benefit of an activity is strongly influenced by what else goes on in the household (e.g. how frequently they shop, how much milk is drunk)
- More results are presented in the report (see link below)



Conceptualising food waste

- The next slides presents a high-level framework that can aid discussion relating to food waste
- It separates out factors relating to the food supply chain (e.g. the role of packaging, the shelf life of products) and those relating to individuals and households
- For the latter, there is a clear separation between activities and other factors: essentially for the amount of food waste to be reduced, changes to what people actually do are required...
- ... however, a wide range of factors have the potential to facilitate such a change in behaviour / practice

Influences: Cultural, Governmental, Demographic, Technological, Economic, Industrial

Retail Supply Chain

Product

Shelf life /
formulation
Production methods
& location

Packaging

Functionality
Labelling

Retail

Portioning &
storage 'devices'
Marketing
Price promotions
Communications
campaign

Individuals and Households

Attitudes & Values

Motivation

Habit

Perceived social norms

Knowledge & skills related to behaviour

Awareness of the issue

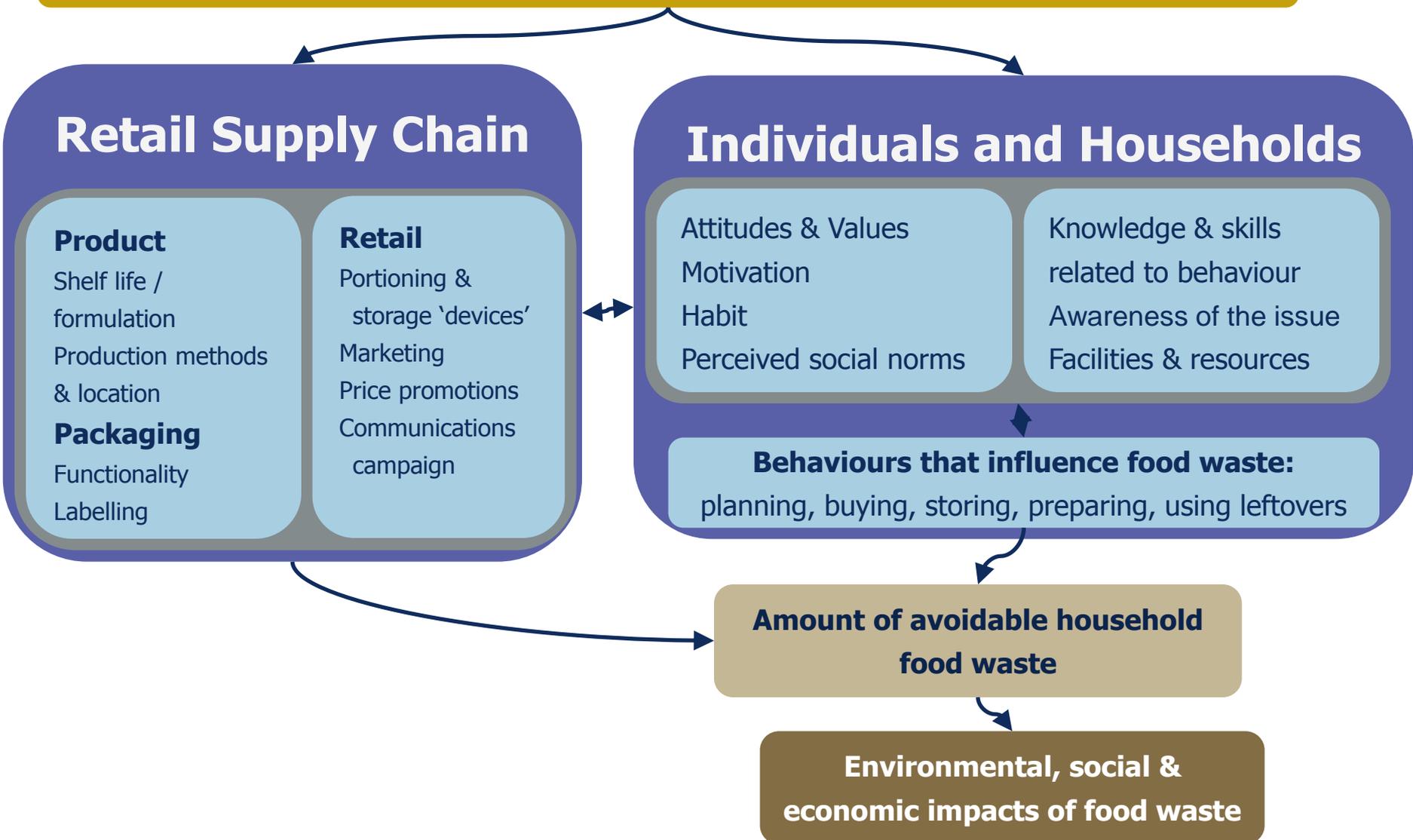
Facilities & resources

Behaviours that influence food waste:

planning, buying, storing, preparing, using leftovers

**Amount of avoidable household
food waste**

**Environmental, social &
economic impacts of food waste**



Conceptualising food-related issues

- The previous slide can be generalised further to look for overlaps between food waste and other food-related issues such as food safety and nutrition (as depicted on the next slide)
- For any change (e.g. to what people do or what people eat), the impacts on different areas can be assessed
- For instance, if people store food in the home optimally, this can extend its shelf life, potentially leading to less food waste and lower instances of food-borne disease
- Where potential overlaps are found, empirical research can be undertaken to assess the extent of these overlaps in reality and how useful the overlap is to joining up initiatives to bring about positive change

Influences: Cultural, Social, Psychological, Governmental, Demographic, Technological, Economic, Industrial

Food Supply Chain

Packaging, labelling,
sourcing, formulation,
pricing, etc.

Food related decisions and activities

What people eat
and waste

Food-waste
impacts

Nutrition-
related impacts

Food-safety
impacts

Other food-
related impacts

Conclusions

- Although food waste in the home is a complex issue, lots of research exists to understand it
- This includes social and economic research and systems-based analysis
- Ways of conceptualising food waste in the home have been developed...
- ... and further refinement (e.g. within this seminar series) could help identify overlaps with other food-related topics
- Further WRAP research on household food waste can be found at: www.wrap.org.uk/waste-resource-listing

tom.quested@wrap.org.uk

