Possibilities to reduce household food waste based on consumers' opinions in the light of the SDGs

Atilla Kunszabó¹, Gyula Kasza¹,², Dávid Szakos¹, Judit Oláh³, József Popp³, Zoltán Lakner², Annamária Dorkó¹, Miklós Süth¹

¹ University of Veterinary Medicine Budapest
² Hungarian University of Agriculture and Life Sciences
³ John Von Neumann University

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Food Economics Research Group – Department of Food Hygiene

- Multidisciplinary research: food consumption, food waste, food chain safety
- Quantitative and qualitative consumer studies
- Policy recommendations, networking

- Food waste related research projects
  - HORIZON-Wasteless-101084222 WASTE QUANTIFICATION SOLUTIONS TO LIMIT ENVIRONMENTAL STRESS
  - HADEA SMP-FOOD-2022-FoodWaste-Stakeholders-AG- 101112149 – How to Reduce Food Waste and Catalyse Actors in the Hospitality and Food Services Sector

- National and international committees:
  - EU Platform on Food Losses and Food Waste
  - European Consumer Food Waste Forum (Dr. Gyula Kasza core expert)
  - EU Citizens’ Panel on Food Waste (Dr. Gyula Kasza member of the scientific committee)
  - Food is Value Forum (Ministry of Agriculture, Hungarian Food Bank Association)
  - National Biowaste Working Group
National Food Waste Prevention Programme – Hungary
Since 2016

- Extensive educational programme targeting children
- Consumer campaign
- Sectoral food waste prevention best practices
- Monitoring household food waste in Hungary
- Contribution to the EU mandatory food waste reporting
Current FW data

- **1.3 billion** tonnes of food waste each year globally\(^1\)
- **931 million** tonnes in retail, food services, households\(^2\)
- **58.5 million** tonnes each year in the EU\(^3\)
- **31.3 million** tonnes in households in the EU\(^3\)
- **65.5 kg/person/year** in Hungarian households\(^4\)

\(^4\)Kasza et al., 2020. https://doi.org/10.3390/su12083069
<table>
<thead>
<tr>
<th>Country</th>
<th>Household food waste kg per capita (2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>70</td>
</tr>
<tr>
<td>Portugal</td>
<td>124</td>
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<tr>
<td>Italy</td>
<td>107</td>
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<td>Malta</td>
<td>92</td>
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<td>Luxembourg</td>
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<td>Greece</td>
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<td>Lithuania</td>
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<td>Austria</td>
<td>83</td>
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<td>Latvia</td>
<td>82</td>
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<td>Denmark</td>
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<td>Germany</td>
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<td>Cyprus</td>
<td>71</td>
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<td>Belgium</td>
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<td>Czechia</td>
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<td><strong>Hungary</strong></td>
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<tr>
<td>Slovakia</td>
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<td>France</td>
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<td>Estonia</td>
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<td>Sweden</td>
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<td>Poland</td>
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<td>Ireland</td>
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<td>Slovenia</td>
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<tr>
<td>Spain</td>
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<tr>
<td>Bulgaria</td>
<td>26</td>
</tr>
<tr>
<td>Norway</td>
<td>78</td>
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</tbody>
</table>
EU Food Waste Policies in accordance with SDG 12.3

By 2030, 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
Research questions

➢ Consumer’s estimation of FW levels in their households

➢ Consumer perspectives of FW reduction

➢ Difference between the perception of avoidable (edible) and unavoidable (inedible) FW

➢ Prospects to reach SDG 12.3 target from the aspect of the consumers
Methodology

- **282 households (758 individuals)**
  Average size of households: **2.7 persons**

- **Survey period:**
  3 November 2021 – 18 December 2021

- **Methodology:** Direct measurement
  Food waste logbook for 1 week + input and output questionnaires
  Data have been extrapolated for one-year consumption cycle

The methodology complies with
Results
24% decrease: half way to SDG 12.3 in terms of avoidable
Households’ estimation

- **Actual** total FW: 65.5 kg/capita/year
- Actual avoidable FW: 25.19 kg/capita/year
- **Estimated** total FW by households: 33.7 kg/capita/year
- Average **underestimation** (compared to total FW): 48.5%

Estimation of total FW by households

- Underestimated: 2.13%
- Estimated correctly (+/- 5%): 13.83%
- Overestimated: 84.04%
Households’ perceived FW level

According to your opinion, how much food waste is generated in your household?

- Far below the average: 35.71%
- Somewhat below the average: 35.00%
- Average: 21.43%
- Somewhat above the average: 5.36%
- Far above the average: 2.50%
Actual vs perceived level of FW in the household

**Actual avoidable vs perceived level**

- Actual avoidable FW (g/household/week)
- Perceived level of FW in the household
- N = 60
- P < 0.0001

**Actual unavoidable vs perceived level**

- Actual unavoidable FW (g/household/week)
- Perceived level of FW in the household
- N = 60
- P = 0.154

*1: far below the average; 5: far above the average
Perceived capability to reduce

Do you think that your household would be able to decrease food waste?

- 59.93% Yes, significantly
- 23.05% Yes, but not significantly
- 17.02% No
Actual FW and perceived capability to reduce

Avoidable FW and perceived capability to reduce it

Unavoidable FW and perceived capability to reduce it

*1: Yes significantly 2: Yes, but not significantly; 3: No
Demographic characterization – perceived capability to reduce

**CAPABILITY TO REDUCE**
- Yes, significantly
- Yes, but not significantly
- No

<table>
<thead>
<tr>
<th>Presence of Child (Kindergarten)</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Yes</td>
<td>42.31%</td>
<td>3.85%</td>
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<tr>
<td>No</td>
<td>53.84%</td>
<td>14.45%</td>
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\( p < 0.001 \)
Significant differences not detected:

- Size of the household (number of persons)
- Type of residence (village, city, capital)
- Type of house (house with garden, other)
- Composting (yes, no)
Conclusions

➢ Consumers underestimate their household FW levels

➢ There is still potential to reduce FW in the households

➢ Avoidable food waste has higher impact on consumers’ perception

➢ Unavoidable food waste might not be perceived as such by the consumers

➢ National programme has been successful – actual wastage decreased by 24% since 2016 in Hungarian households

➢ Legally binding targets are suggested in accordance with research findings

➢ Awareness raising, education – key instruments
Thank you very much for your attention!

kunszabo.atilla@univet.hu