

*The many shades of
food waste in HORECA!*

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PROBLEM/CHALLENGE

SIZE

12%

HORECA 39%
RE 62%

SOURCES

30% GUESTS

DRIVERS

11 groups
19 drivers

20% global GHG emissions
from food

92% water footprint

biowaste in landfill leads
to methane, CO₂, biowaste
incinerated leads to CO₂

...poor assumptions and/or estimations!
...heterogeneity and variations!



THE NATURE OF THE PROBLEM

HETEROGENEITY

MACRO LEVEL

Segment 1: 98% biowaste and 2% oils/fats
Segment 2: 26% biowaste, 71% edible oils/fats, 2% grease
Segment 3: 78% mixed municipal waste, 18% biodegradable waste.
Segment 4: 5% biowaste, 1% edible oils/fat, 31% plastic, 12% glass
Segment 5: % biowaste

MICRO LEVEL

4* **budget**

Breakfast-main 14.3g
Dinner-main 45.5g
Dinner – second 58.1g
Dinner – specialized 62.8g

Breakfast 9.2g

Juvan, E. et al. (2021). Drivers of plate waste at buffets: A comprehensive conceptual model based on observational data and staff insights. *Annals of Tourism Research Empirical Insights*, 2(1), 100010
Juvan, E., Gruen, B., Dolnicar, S. (2023). Waste production patterns in hotels and restaurants: An intra-sectoral segmentation approach. *Annals of Tourism Research Empirical Insights*, 4, 100090

NANO LEVEL

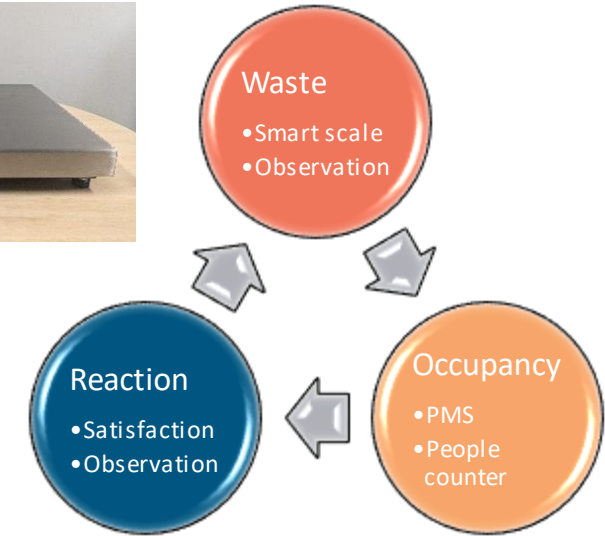
VIP	DAY1	DAY2	DAY3
REGULAR (60g)	47.5g	59.5g	72.6g
UPSCALE (119g)	68g	138g	151g
DELUXE (146g)	152g	119g	167g
MEDIA (11g)	12g	9g	12g

Juvan, E., Lesjak, M. (in press). "Panem et circenses": investigating platewaste at major sport events (SDG 12.3)



TACKLING THE PROBLEM

- 4 LIVING LABS
 - Coastal resort
 - High-end restaurant
 - Mountain hotel
 - MICE center/hotel
- STAFF
 - Trained graduate students
 - Trained staff
- DEVELOPERS
 - researchers
 - IT



LESSONS LEARNED - DRIVERS

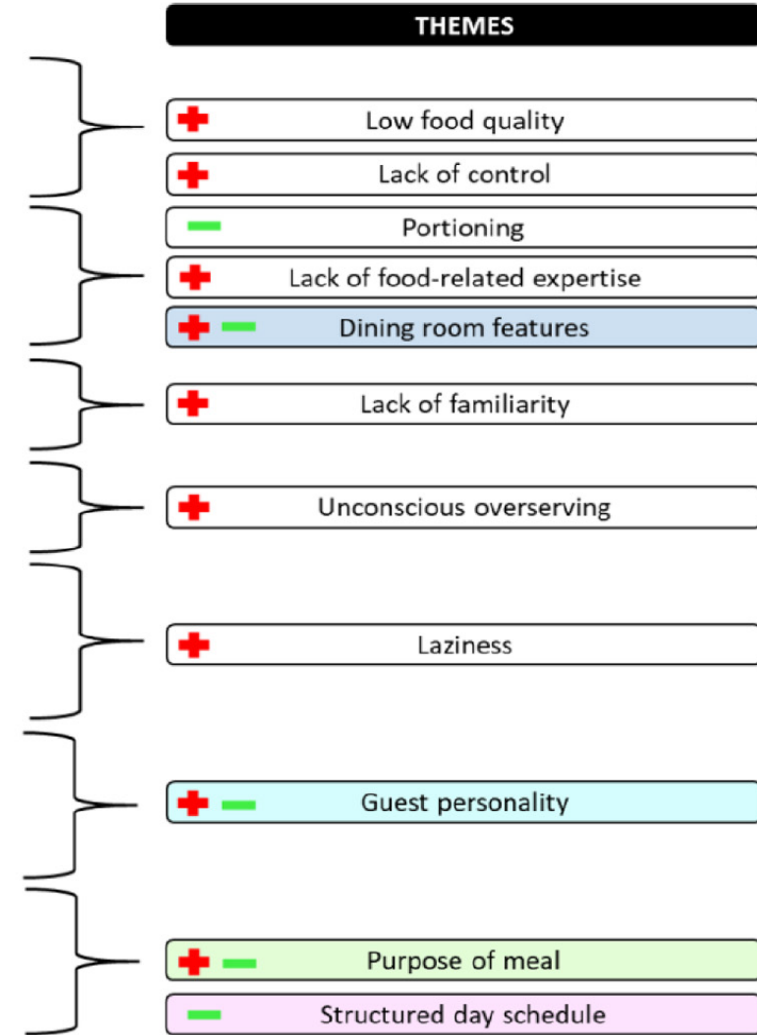


Plate waste at hotel buffets

+ Increases plate waste
- Reduces plate waste



LESSONS LEARNED - SUCCESS

Thank you

I FEEL LOVE

Please help us reduce food waste.



HOTEL	Hístrion <input type="checkbox"/>	Vile Park <input type="checkbox"/>		
SOBA / ROOM				
PRIHOD / ARRIVAL				
ODHOD / DEPARTURE				
NARODNOST / NATIONALITY				
ŠT. ODRASLIH / NUMBER OF ADULTS				
ŠT. OTROK / NUMBER OF CHILDREN				
STAROST OTROK / CHILDREN'S AGE	1 st child	2 nd child	3 rd child	4 th child

DATUM/DATE	ŽIG/STAMP	DATUM/DATE	ŽIG/STAMP

Collect stamps for the entire duration of your stay and receive a present.

- 13g per family member
+38% more 0 plate waste families

Pleasure/Game
Reward



- 12g per guest @ dinner
- 0g per guest @ breakfast

Sharing responsibility/Game
Crowdedness



LESSONS LEARNED - SUCCESS

AUTHORITY

EMPATHY

„Clean Your Plate Campaign, Chairman says thriftiness is applaudable“



- 13,9g per guest



0 effect





„Clean Your Plate Campaign, every single grain means hardship“

LESSONS LEARNED - FAILURE



0 effect

Music/Feelings/Calmness
Crowdedness/Food odor

Food leftovers harm the environment.	Our hotel cat Marko has put on too much weight!
 <p>Producing, transporting, cooling and preparing food requires a lot of water and energy.</p> <p>When food is not eaten, those resources are used unnecessarily, burdening the environment.</p>  <p>In landfill, food waste produces methane, a gas that warms the atmosphere 23 times more than CO₂.</p> <p>To reduce harm to the environment we must avoid food leftovers.</p>	 <p>Hotel guests leave uneaten food behind on their plates.</p> <p>Marko loves food, so he eats the leftovers.</p>  <p>Marko puts on weight.</p> <p>Marko needs to go on a diet!</p>
<p>Please help the environment: don't leave edible food leftovers on your plate at the end of your meal.</p>	<p>Please help Marko with his diet: don't leave edible food leftovers on your plate at the end of your meal.</p>

0 effect

Humour
Environmental appeal
Crowdedness/Situational factors



CHALLENGES

- Automatization
 - error free
 - less manual work
 - benchmarking
 - instalment
 - adoption
- Measurement
 - sources of food waste
 - staff
- Funding
 - scientific approach
- Implementation
 - concern over guests reactions
 - adopting the notion of „universal approaches“
 - shortage of staff



In partnership with...



Low Harm Hedonism
Initiative



Thank for your attention!



Fakulteta za turistične študije - TURISTICA
Facoltà di studi per il turismo
Faculty of Tourism Studies