

# Do restaurants in Japan support the goals of minimizing food loss and maintaining healthy weight?

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## [SUMMARY]

This study examined how restaurants support the goals of minimizing food loss and helping customers to maintain healthy weight by evaluating the owners' thoughts about leftovers. Four hundred and twelve restaurant owners in Japan participated in the self-reported survey. Participants answered questions about practices with leftovers, thoughts related to leftovers and readiness of action for achieving national goals for minimizing food loss and maintaining healthy weight. This research shows that few restaurants measure or record leftovers even though the owners knew there are leftovers sometimes. In addition, the owners believed that large portion sizes were needed for customer satisfaction and only few restaurants support the national goals such as minimizing food loss and maintaining healthy weight.

## [BACKGROUND]

Serving excessive amounts of food may not only stimulate overeating in customers but also increase leftovers. However, we do not know what restaurant owners think about portion size and leftovers. In Japan, we set national goals for minimizing food loss and having more people who maintain healthy weight. These are also targets in SDGs (Sustainable Development Goals).



## [OBJECTIVE]

This study aims to examine how restaurants support the goals of minimizing food loss and maintaining healthy weight based on the owners' thoughts about leftovers. Furthermore, we surveyed recognition about SDGs.



## [METHODS]

### Study design and subjects:

- A cross-sectional study via an internet survey through a Japanese research company; May, 2019
- 412 restaurants owners or managers of food service companies who serve lunch.
- If the participants had several restaurants, they answered questions about the restaurant whose sales at lunch time were the highest.
- The reason we focused on lunch was because dinner at restaurants were more likely to be used as meals for events. On the other hand, having lunch at restaurants was more habitual meals and it may effect on our health.

### Measures:

1. Demographic characteristics: participants (2 items)
2. Demographic characteristics: restaurants (4 items)
3. Leftovers at lunch (1 item, 4 choices)
4. Recording or checking leftovers (1 item, 4 choices)
5. Frequency of recording or checking leftovers (1 item, 7 choices)
6. Opinions regarding portion size, food intake and weight management (7 items, 6 choices) Reference: Condrasky et al.(2007) Obesity, 15(8) 2086-2094.
7. Readiness to take action for achieving national goals (2 items, 5 choices )
8. Recognition and referring SDGs (1 items, 6 choices)

### Analysis:

- Descriptive analysis

## [RESULTS]

### ✓ Demographics of participants and restaurants

- Three hundred seven out of 412 participants were men(74.5%); average age was 51.0(SD=9.3). Over 80% of them were small business owners (n=357, 86.7%).

#### Demographics of restaurants

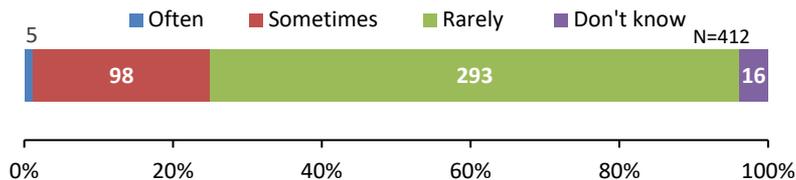
Genre (Top3) *	Ordinary restaurants	84(20.4)
	Cafe	80(19.4)
	Specialized restaurants	40(9.7)
Price per customer (yen)**		900(750,1200)
Number of seats**		22(15,36)
Number of staff**		2(2,4)

\*n(%), \*\*Median(25, 75 percent tile) 900 yen = \$8.35

# [RESULTS]

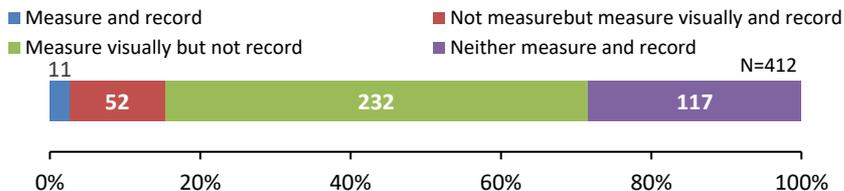
## ✓ Frequency of leftovers

- 293 (71.1%) of them answered that leftover at lunch is rare.



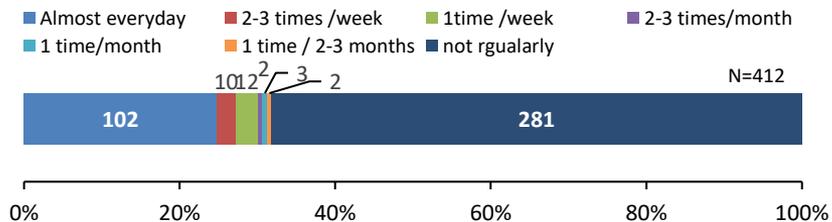
## ✓ Measure and Record leftovers

- More than half (56.3%) answered they measure leftover visually but not record it.



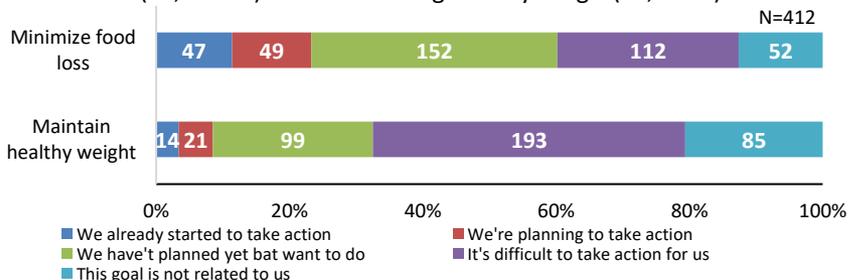
## ✓ Frequency of measuring or recording leftovers

- 281 (66.7%) of them answered that they did not record it regularly.



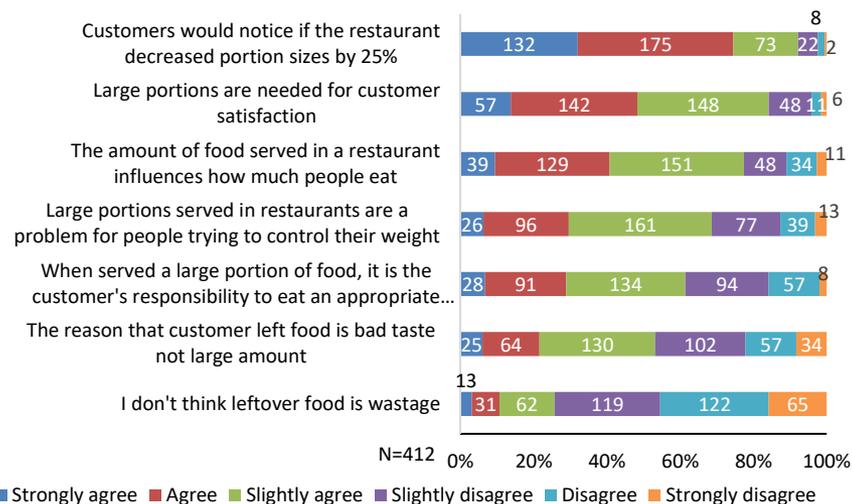
## ✓ Readiness to take action for achieving the national goals

- Only few reported to have started for achieving the national goals of minimizing food loss (47, 11.4%) and maintaining healthy weight (14, 3.4%).



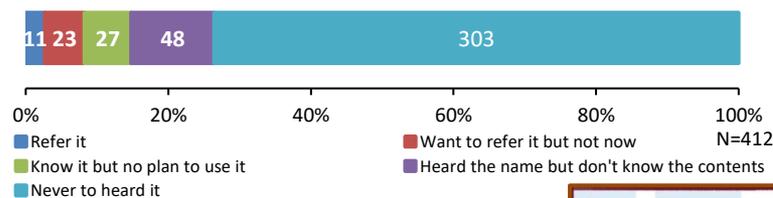
## ✓ Restaurant owners' opinions

- 84.2% (347; 57+142+148) believed that large portions are needed for customer satisfaction. On the other hand, 77.4% (319; 39+129+151) answered that the eating amount was affected by the serving amount and 61.4% (253; 28+91+134) thought that the customers should control their eating amount.



## ✓ Referring SDGs for running business or not

- Only 2.7% (11) refer SDGs and 73.5% (303) answered never to have heard of SDGs.



## [DISCUSSION & CONCLUSION]

- Their interests about national goals and SDGs were low.
- They believed large portions were needed for customer satisfaction, even though they realized that they regularly had leftovers.
- Further study is needed how to raise interest in the goals for restaurant owners.

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