

Week 9: Diary Entry

1. What is the topic that you have finalized? (Answer in 1 or 2 sentences)

The topic that I have finalized is food waste in Singapore. I will discuss the extent of food waste in Singapore, its causes and impacts, and what can be done to reduce it.

2. What are the data sources that you have curated so far? (Answer in 1 or 2 sentences)

1. Average Food Waste Around the World, 2021 (<https://www.kaggle.com/datasets/joebeachcapital/food-waste/>)
2. Waste and Recycling Statistics from 2003 to 2017 (<https://www.nea.gov.sg/docs/default-source/our-services/waste-management/wastestats-2003-20164197a3fd04d34770bafba09393d0fdf0.pdf>)
3. Waste and Recycling Statistics from 2017 to 2021 (<https://www.nea.gov.sg/docs/default-source/default-document-library/waste-and-recycling-statistics-2017-to-2021.pdf>)
4. 2022 Waste Statistics and Overall Recycling Table (<https://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling>)

Link to Github: Challenges & Code-alongs:

<https://github.com/choonhongsie/NM2207-Challenges-and-Code-alongs.git> (<https://github.com/choonhongsie/NM2207-Challenges-and-Code-alongs.git>)

Webpage:

<https://choonhongsie.github.io> (<https://choonhongsie.github.io>)

Week 10: Diary Entry

1. What is the question that you are going to answer? (Answer: One sentence that ends with a question mark that could act like the title of your data story)

What are the key drivers of food waste in Singapore and around the world?

2. Why is this an important question? (Answer: 3 sentences, each of which has some evidence, e.g., "According to the United Nations..." to justify why the question you have chosen is important)

Food waste is a major contributor to climate change, accounting for 8-10% of global greenhouse gas emissions. Reducing food waste is essential for mitigating climate change and protecting the environment. Source: United Nations Environment Program (UNEP) (2021). *Food Waste Index Report 2021*. (<https://www.unep.org/resources/report/unep-food-waste-index-report-2021#:~:text=Estimates%20suggest%20that%208%2D10,both%20people%20and%20the%20planet.>)

According to the National Environment Agency (NEA), Singapore generated 763,000 tonnes of food waste in 2022 and this accounted for 11% of total waste. This amount has increased steadily over the years, and it is expected to continue to grow as the population and economy expand. Source: 2022 Waste Statistics and Overall Recycling Table (<https://www.nea.gov.sg/our-services/waste-management/waste-statistics-and-overall-recycling>)

Food waste is a serious problem in Singapore, as it affects food security and puts pressure on resources. This is especially concerning given that Singapore imports over 90% of its food supply and is a land-scarce country. Source: [towardszerowaste.gov.sg](https://www.towardszerowaste.gov.sg/foodwaste/#:~:text=When%20food%20is%20wasted%2C%20more,puts%20pressure%20on%20our%20resour) (<https://www.towardszerowaste.gov.sg/foodwaste/#:~:text=When%20food%20is%20wasted%2C%20more,puts%20pressure%20on%20our%20resour>)

3. Which rows and columns of the dataset will be used to answer this question? (Answer: Actual names of the variables in the dataset that you plan to use).

1. Dataset: Waste and Recycling Statistics from 2003 to 2022

Row	Column
1 to 20	1. Country 2. combined figures (kg/capita/year) 3. Household estimate (kg/capita/year) 4. Household estimate (tonnes/year) 5. Retail estimate (kg/capita/year) 6. Retail estimate (tonnes/year) 7. Food service estimate (kg/capita/year) 8. Food service estimate (tonnes/year) 9. Region

2. Dataset: Waste and Recycling Statistics from 2003 to 2022

Row	Column
1 to 20	1. Year 2. Total Waste Recycled (tonne) 3. Total Waste Generated (tonne) 4. Recycling Rate (%)

4. Include the challenges and errors that you faced and how you overcame them.

1. Using the data sets obtain from United Nations Environment Programme (UNEP) from Kaggle, I have created a bar chart to show the top 5 countries including Singapore of the total Household Food Waste generated (tonnes per year). Initially, some of challenges I faced and I resolved it in a table below.

Challenge Faced	Solution
How do I flipped the bar chart from vertical to horizontal?	Use <code>coord_flip()</code>
The data value displayed extended outside the panel and I do not know how to resolve it.	Added <code>clip = "off"</code> to coordinate system of <code>coord_flip()</code> to ensure that the labels are not truncated by the panel.
How do I change the sharp-edged bars into rounded rectangles?	Installed a <code>geom_chicklet</code> package and changed from <code>geom_bar()</code> to <code>geom_chicklet(radius = grid::unit(2, 'mm')</code>

2. Another challenge I faced was to integrate shiny app into Quarto. I resolved it by creating doing the following:

1. Installed the “r-shinylive” package from GitHub in R Console
2. Opened my Quarto project using the terminal
3. Installed the “shinylive” Quarto extension via the Terminal in the new RStudio Project.
4. Created a new Quarto document of dashboard.qmd
5. Modified the Quarto document of dashboard.qmd to utilize the “shinylive” filter.
6. Switched the code cell type from `{r}` to `{shinylive-r}` to execute the Shiny app.