FOOD WASTE AND ENVIRONMENTAL EMISSIONS

Insights into a Growing Global Concern

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OVERVIEW

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USER STORY

As a sustainability officer, I aim to identify key commodities and supply chain stages contributing most to food loss and emissions. By targeting these areas, we plan to reduce waste, and lower greenhouse gas emissions globally.

METADATA AND DATA SOURCE

Data Source **Food Waste FAO Dataset**

Raw data from global food supply chains focusing on commodities

Key Fields:

- Country: Countries where data was collected.
- Commodity: Agricultural products (e.g., Rice, Wheat).
- Value: Measurements such as food loss in percentages.

Purpose:

- To track food waste in various stages of the supply chain.

METADATA AND DATA SOURCE

Data Source Emissions FAO Dataset

FAOSTAT dataset containing global statistics on greenhouse gas emissions (CO2, CH4).

Key Fields:

- Country: Countries contributing to food and agriculture statistics.
- Element: Emissions (CO2, CH4).
- Value: Quantified emissions (e.g., tons of CO2).

Purpose:

- Understand global trends in emissions.

DATA PROFILING

Emissions FAO Dataset

234 countries, 2 emission types with a mix of food supply stages and emission value.

Food Waste FAO Dataset

106 countries, Over 6,000 records with commodity types, production figures, and geographic data.

DATA CLEANING

1. Changed data types

2. Removed unwanted fields

3. Created calculated fields (split commodities)

4. Filtered and mapped null values

6. Grouped food supply stages

7. Rounded off decimal values

8. Created primary key

After performing inner join

9.Removed unwanted column

10.Aggregated the values of loss percentage and emission value

INSIGHTS

Potatoes contributed with the highest Emission Value.

```
SELECT Commodity, Emission_Value_kt
FROM food_waste_emissions
ORDER BY Emission_Value_kt DESC
LIMIT 5;
```

Commodity	Emission_Value_kt
Potatoes	2730320
Rice	187052
Other fruits	165564
Edible roots and tubers with high starch or inulin…	99934.7
Maize (corn)	97274.5

INSIGHTS

Retail and wholesale’s supply stage has more food wastage.

```
SELECT Food_Supply_Stage, Food_Loss_Percentage
FROM food_waste_emissions
ORDER BY Food_Loss_Percentage DESC
LIMIT 5;
```

Result Grid | Filter Rows:

Food_Supply_Stage	Food_Loss_Percentage
Retail and wholesale	61.1
Retail and wholesale	61.1
Harvest	45
Harvest	45
Retail and wholesale	43.1

INSIGHTS

China was the producer with the Highest Emissions and Food Loss.

```
SELECT Country, Loss_Emmisions
FROM food_waste_emissions
ORDER BY Loss_Emmisions DESC
LIMIT 5;
```

Result Grid | Filter Rows:

Country	Loss_Emmisions
China	90100.5
South Africa	33940.6
United States of America	29989.7
United States of America	21154.8
United States of America	19731.4

REFERENCES

- https://www.fao.org/faostat/en/#data/GT/visualize
- https://www.fao.org/platform-food-loss-waste/flw-data/en/

THANK YOU