Healthy diet, healthy planet.

The purpose of my project would be to look into the food preferences of the different countries worldwide in terms of meat consumption.
My plan is to start with showing the trends of meat consumption worldwide assuming they would be increasing in the last few years.
I would like to show how much pollution the production of this meat has caused by looking into the agricultural methane emissions resulting from them. In terms of the pollution- I am also assuming it has been increasing over the years resulting from the higher production resulting from the higher demand on the market.
Last but not least, I would like to look into the topic about vegan & vegetarian restaurants that could highly support the decrease of meat consumption worldwide- the more tasty alternatives to meat there would be available, the more likely it would be that the educated populations would be demanding less meat products.

- OECD (2021), Meat consumption (indicator). doi: 10.1787/fa290fd0-en (Accessed on 22 November 2021)

https://data.oecd.org/agroutput/meat-consumption.htm#indicator-chart

This dataset provides an yearly overview of the worldwide meat consumption.
While the global meat industry provides food and a livelihood for billions of people, it also has significant environmental and health consequences for the planet. This indicator is presented for beef and veal, pig, poultry, and sheep. Meat consumption is measured in thousand tonnes of carcass weight (except for poultry expressed as ready to cook weight) and in kilograms of retail weight per capita. Carcass weight to retail weight conversion factors are: 0.7 for beef and veal, 0.78 for pigmeat, and 0.88 for both sheep meat and poultry meat.

Periodicity: Annual

The data is reliable since it is gathered from an official source.

Clean your data. Conduct some basic data cleaning and consistency checks in Jupyter to ensure your data is ready for further analysis:

- Changed the column names from:
  - {'LOCATION' : 'location'}
  - {'SUBJECT' : 'subject'}
  - {'MEASURE' : 'measure'}
  - {'Value' : 'value'}
  - {'TIME' : 'year'}
- Dropped columns that did not bring me any value: ['INDICATOR', 'FREQUENCY', 'Flag Codes']

Understand your data. Develop a basic understanding of your data set by reviewing the variables and performing basic descriptive statistical analysis:

The dataset has information about meat consumption between 1990 and 2029 (forecast). The data is divided by countries, however we also have some union aggregated information, such as for countries part of OECD- Total, BRICS, World.

Consider limitations and ethics. Outline any limitations and ethical considerations presented by the content of your data, its source, and/or how it was collected: The data seems to be collected regularly and is reliable, no missing values either.

- Agricultural methane emissions (thousand metric tons of CO2 equivalent)

https://data.worldbank.org/indicator/EN.ATM.METH.AG.KT.CE?end=2008&start=2008&view=map&year=1971

Agricultural methane emissions are emissions from animals, animal waste, rice production, agricultural waste burning (non energy, on-site), and savanna burning.

Source: Data for up to 1990 are sourced from Carbon Dioxide Information Analysis Center, Environmental Sciences Division, Oak Ridge National Laboratory, Tennessee, United States. Data from 1990 are CAIT data: Climate Watch. 2020. GHG Emissions. Washington, DC: World Resources Institute. Available at: climatewatchdata.org/ghg-emissions.

Periodicity: Annual

The data is reliable since it is gathered from an official source.

Clean your data. Conduct some basic data cleaning and consistency checks in Jupyter to ensure your data is ready for further analysis:

1. Renamed the columns in the data set, for example 1971 [YR1971] to 1971 since it is more intuitive.
2. Divided the dataset into two subsets:
    a. Agricultural_methane_emissions_country_code_final- where we can check the country and its country code
    b. Agricultural_methane_emissions_years_final- which is also a transposed version of the original dataset which only contains the country names and the value of the emission.

Understand your data. Develop a basic understanding of your data set by reviewing the variables and performing basic descriptive statistical analysis:

The dataset contains the level of pollution on a country/ regional level between 1971 and 2018. We also have information regarding Upper middle income in the country.

Consider limitations and ethics. Outline any limitations and ethical considerations presented by the content of your data, its source, and/or how it was collected:The data seems to be collected regularly and is reliable, no missing values either.

I will further investigate the topic of vegetarian and vegan restaurants and add more data sets to my project.

Define questions to explore. In a third section of your project document, define a list of questions to explore with your analysis.

1) Clarifying questions:
    a) What counties have the most meat consumption?
    b) What years had the most worldwide meat consumption?
    c) Where is the highest pollution from these emissions recorded?
    d) Which are the countries that are most vegan friendly? Which are the leading markets for meat substitutes in Europe?

2) Adjoining Questions
    a) Is there a correlation between the higher meat consumption and the agricultural methane emissions levels in recent years?
    b) Are there any specific programs that lower meat consumption in some countries?
    c) Do countries with more vegan/vegetarian restaurants have lower meat consumption? For this particular question I will also look into what Google Trends offer in terms of searches, for example: https://trends.google.com/trends/explore?date=now%207-d&geo=US&q=vegan%20restaurant%20near%20me,vegetarian%20restaurant%20near%20me,steakhouse%20near%20me,Climate%20change,food%20documentary

3) Funnelling Questions
    a) Do countries with higher average salaries have higher meat consumption?

4) Elevating Questions
    a) What is the long term impact of high rates of meat consumption?
    b) What are some countries already doing in order to promote veganism?
    c) Are there any other industries that could be harming the environment through animal production- shoes/ bags/ belts, leather industry,etc?

5) Privacy and Ethics:
    a) Are there relevant data privacy laws to consider?