

# Climate Change and its Burn on Pocket

## - Cost of Living Crisis



# Motivation

- Climate change poses an existential threat to humanity.

## Impacts

- Changing weather patterns
- Disappearing spring seasons
- Unbearable summers
- Falling annual precipitations
- ever-increasing droughts
- Prolonged heat waves

*These factors have impacted various sectors of the economies ranging from crop production and availability of drinking water.*



- The most impact is borne by the people at the bottom of the financial pyramid, which leads to a cost of living crisis.
- The project aims to derive actionable insights from data to mitigate climate change risks and ensure availability and affordability of basic needs.



# Data Sources

## 1. FAOSTAT – Food and Agriculture Organization of the United Nations

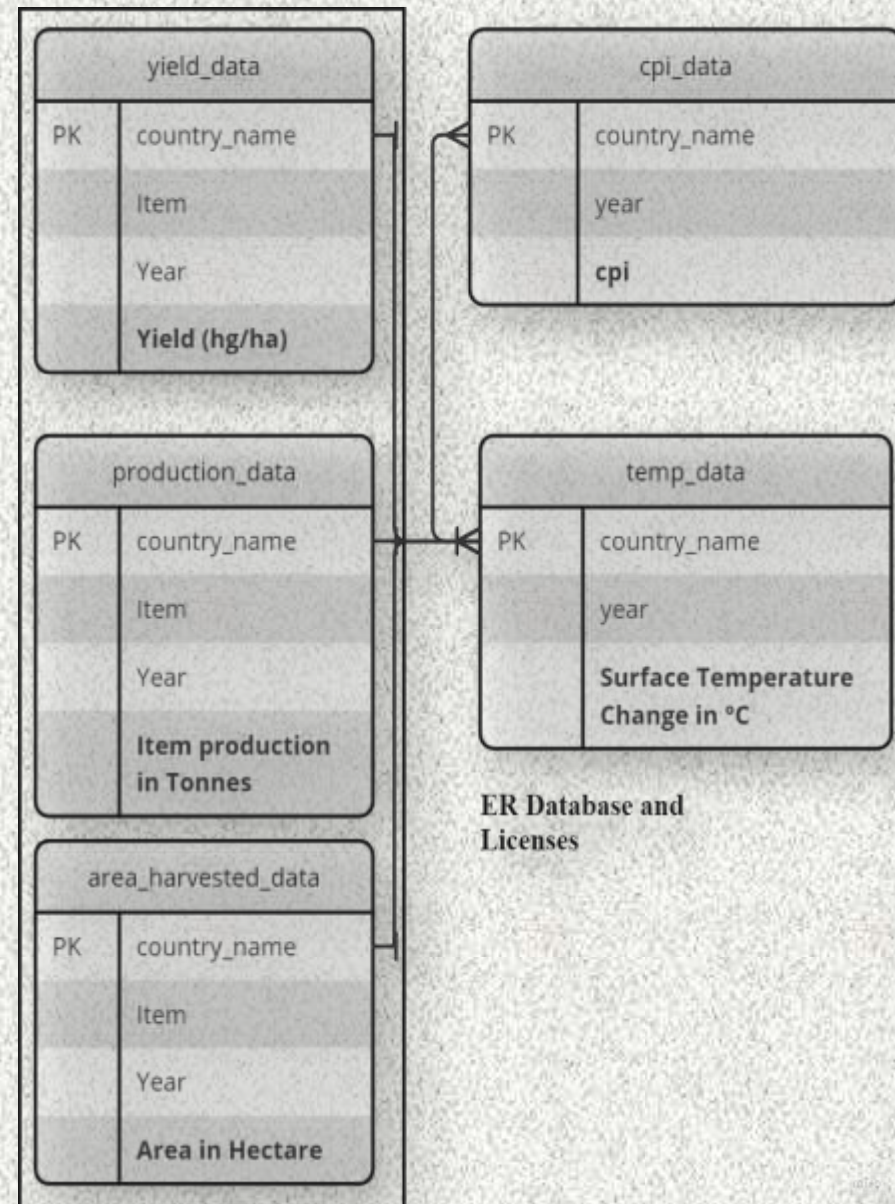
- Data Format: CSV
- URL: [Africa](#), [America](#), [Asia](#), [Europe](#), [Oceania](#)
- License: CC BY-NC-SA

## 2. Kaggle

- Data Format: CSV
- URL: Temperature statistics
- License: CC BY-NC-SA

## 3. World Bank Open Data

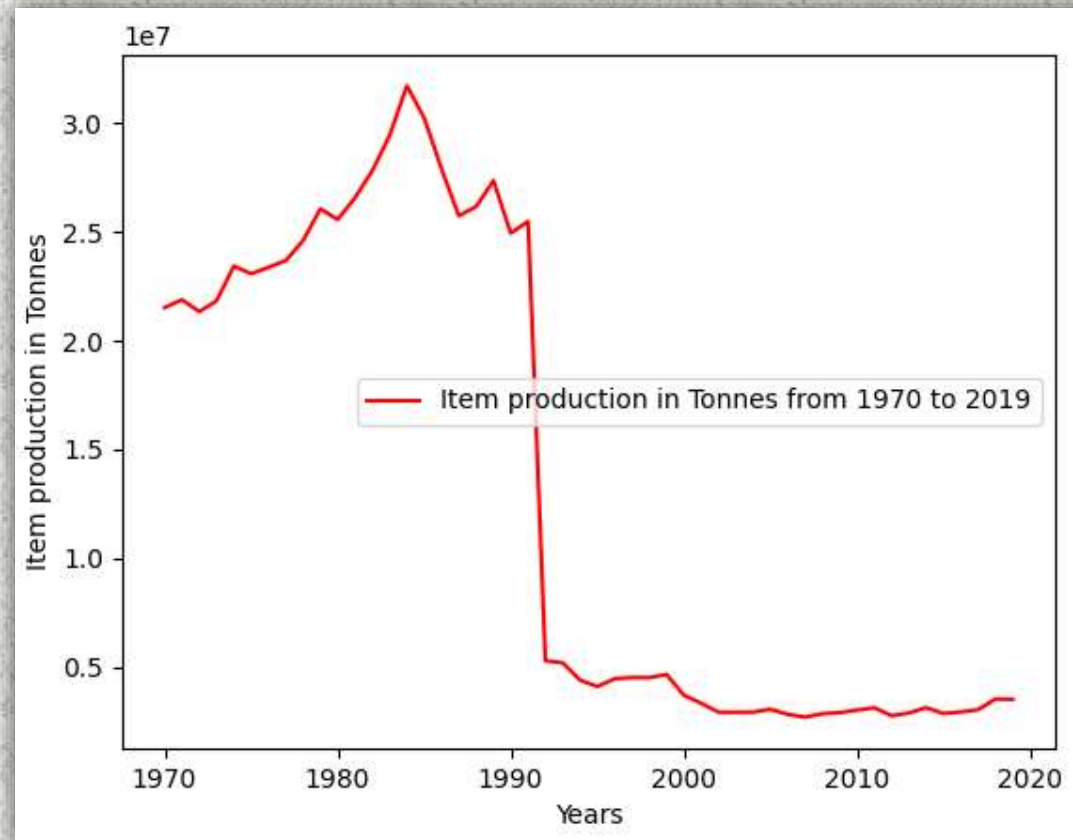
- Data Format: CSV
- URL: Global development data
- License: CC BY 4.0



# Analysis - Deep Dive into the Data

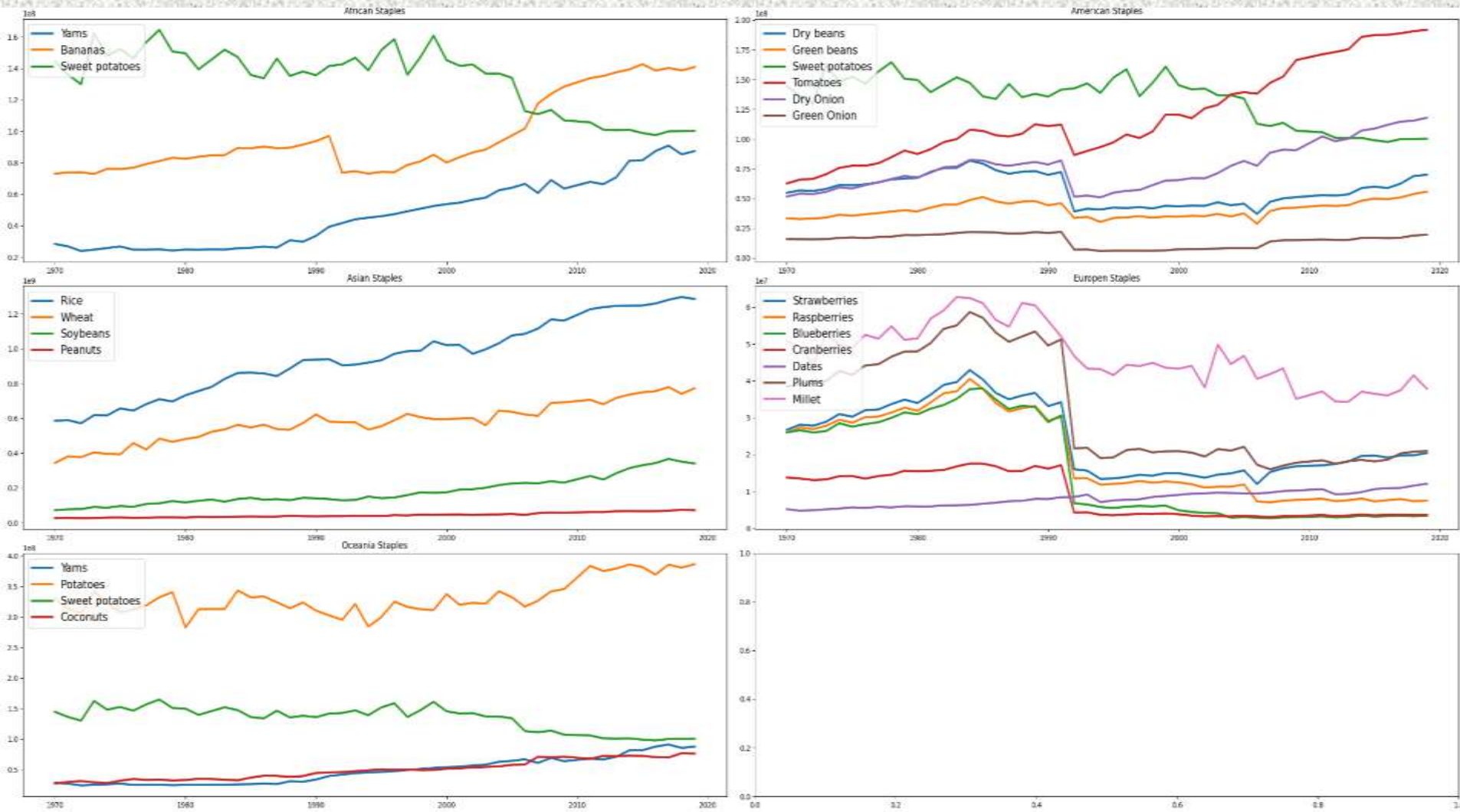
- **Yield per Hectare Trends:** Decline in staple food production from 1970-2019.
- **Trends of Yield, Temperature and CPI Across Regions**
- **Correlations** between Temperature Changes Staple Food items Yield, and CPI

Region	Staple foods
Africa	Yams, Bananas, Sweet potatoes
America	Dry beans, Green beans, Sweet potatoes, Tomatoes, Dry Onion, Green Onion
Asia	Rice, Wheat, Soybeans, Peanuts
Europe	Strawberries, Raspberries, Blueberries, Cranberries, Dates, Plums, Millet
Oceania	Yams, Potatoes, Sweet potatoes, Coconuts





# Yield Trends (1970-2019)



## Major Points:

Peak production in the 1980s, decline post-1990s.

Factors: Pest outbreaks, crop diseases, natural disasters.

# Trends of Yield, Temperature and CPI Across Regions

## Major Points:

- Average global production yields over from 1970-2019 and yield per hectare (Hg/Ha) of staples foods, which has been struggling to rise.
- General phenomenon is that the average global Surface Temperature Change ( $^{\circ}\text{C}$ ) has risen by almost  $1.5^{\circ}\text{C}$  from 1970 to 2019, this change is very different across different regions of the globe.
- In Oceania region, the CPI numbers have gradually increased by 120 percentage points, while for African region the inflation is much higher and hits a peak of 500 percentage points.

Figure 1

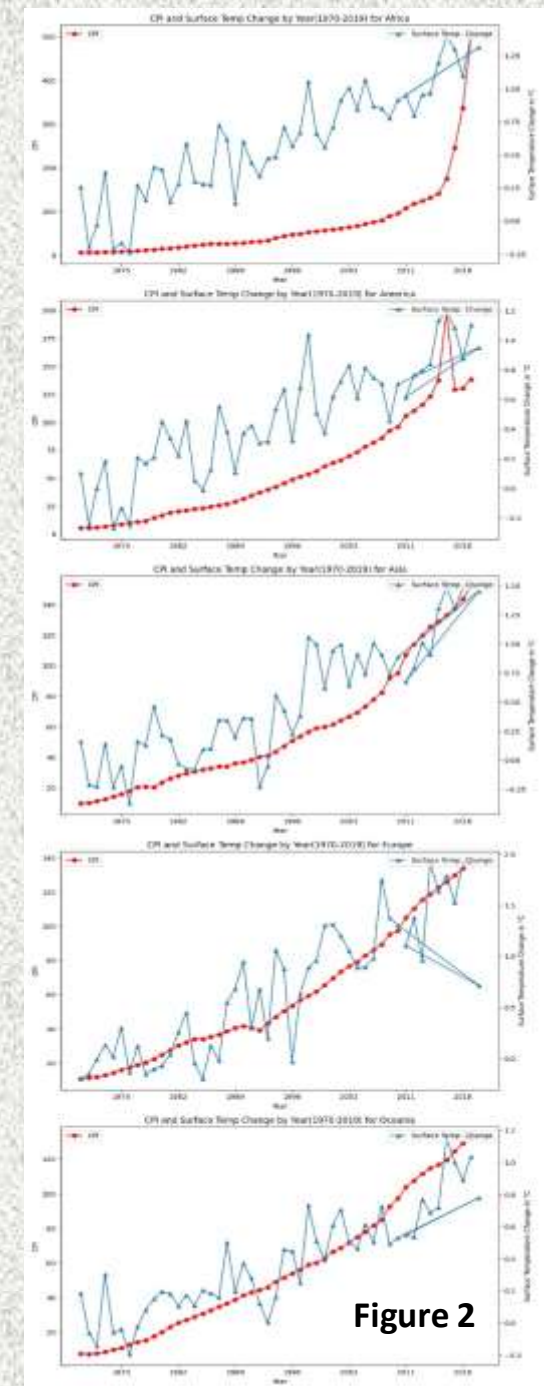
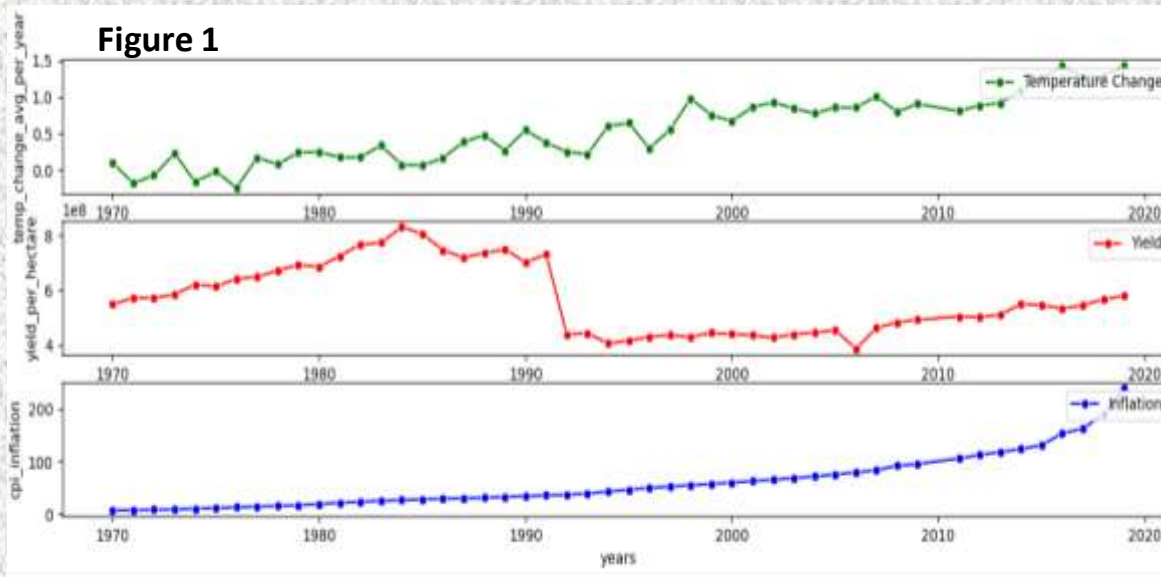
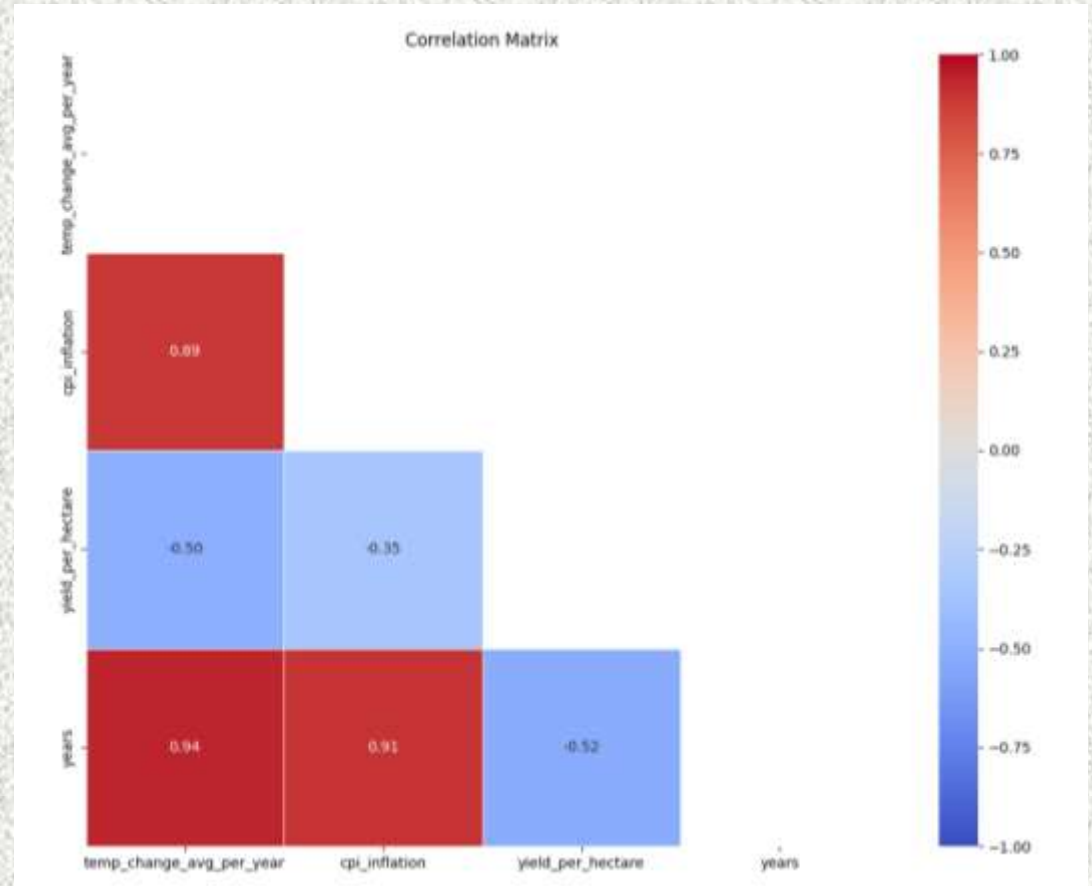


Figure 2

# Correlations

## Major Points:

- **Yes**, there is a very high correlation (+0.89) between Surface Temperature Change (°C) and Consumer Price Inflation across various regions of the globe.
- **Yes**, as yield per hectare(Hg/Ha) goes down, the CPI inflation goes up, as they show as negative correlation (- 0.35).





# Conclusions

- **Limitations of the Study**
  - Missing Data in Temperature Dataset
  - Potential Confounding Variables
- **Questions for Further Research**
  - Exploring Additional Influencing Factors
  - Impact of Climate Change Policies