

# Food Production and GDP Analysis

Jeff Brown  
Brittanie Fraser  
Kristy Le  
Vandan Patel

# Exploring food production and economic wealth

## ► Background

- Food insecurity has been slowly increasing over the past 6 years with a 14% increase in 2020 from 2019.

## ► Our Focus Question

- This led us to question whether countries with higher production of food perform better financially. We wanted to explore the relationship between food production and economic wealth among countries in the world.

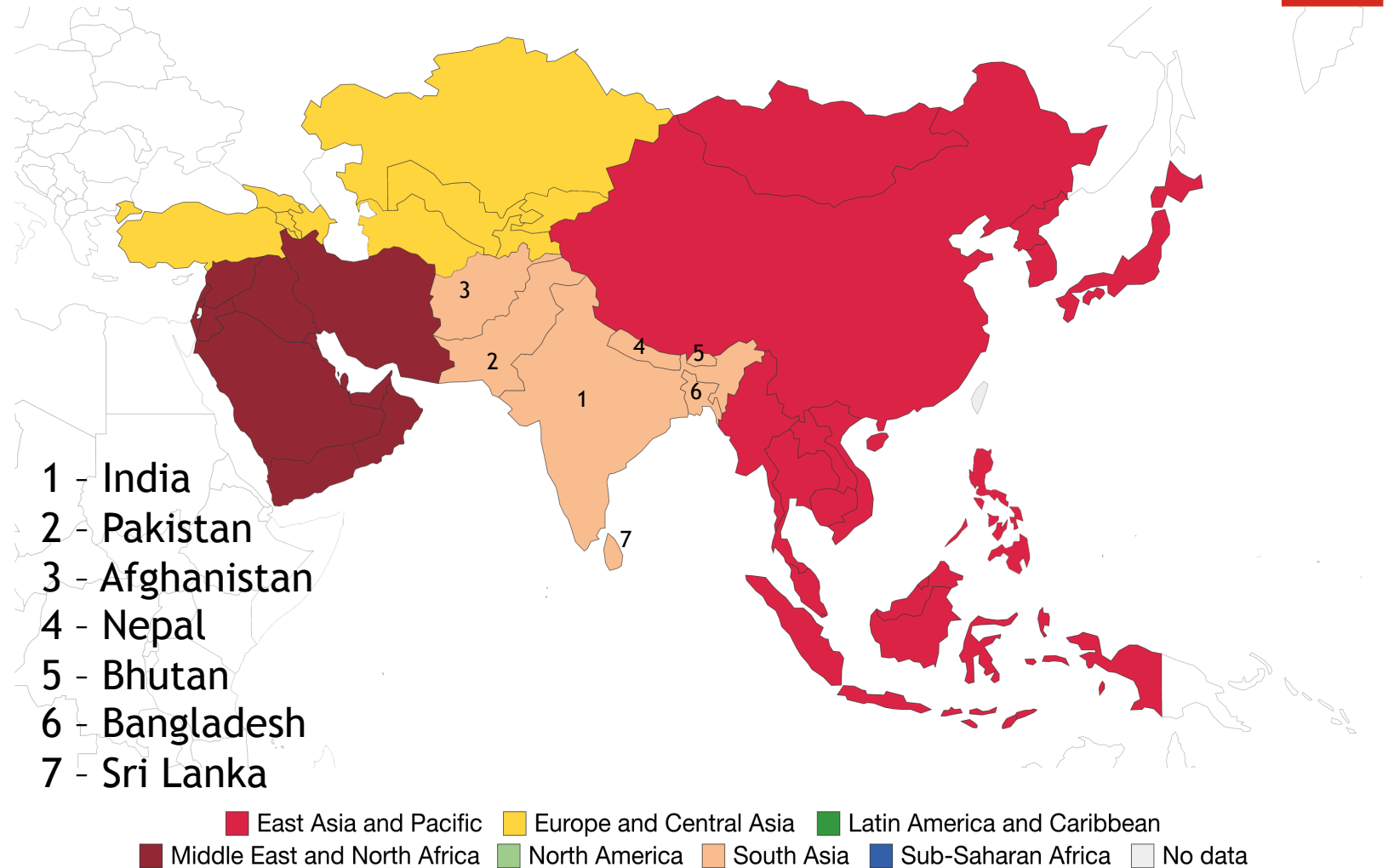
## ► Our Datasets

- Food Wealth Bank of the World - Kaggle
- 2020 GDP - Datahub.io
- 2020 Human Development Index - United Nation Development Programme
- Country Regions - The World Bank

# Narrowing our focus to South Asia

- ▶ South Asia consists of India, Pakistan, Afghanistan, Nepal, Bhutan, Bangladesh, and Sri Lanka. India is the second-largest country by population (World), the second-highest producer of agriculture (World), and also the poorest country on a per capita basis.

World regions according to the World Bank



# GDP and Food Production Defined

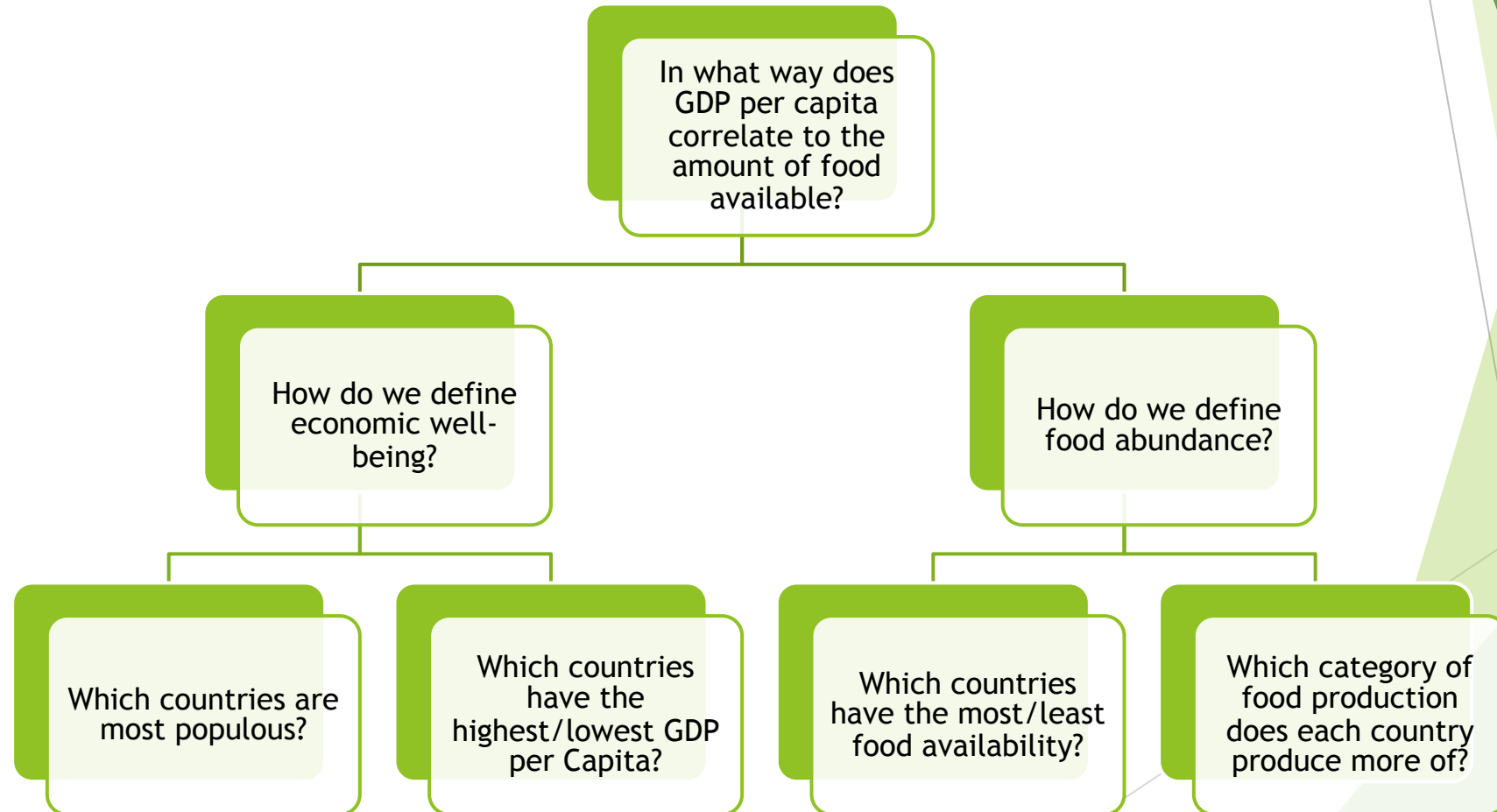
## What is Gross Domestic Product (GDP)?

- GDP is the total monetary or market value of all the finished goods and services produced within a country's borders in a specific time period. As a broad measure of overall domestic production, it functions as a comprehensive scorecard of a given country's economic health.
- **GDP Per Capita** is a measurement of the GDP per person in a country's population. It indicates that the amount of output or income per person in an economy can indicate average productivity or average living standards.

## What is food production?

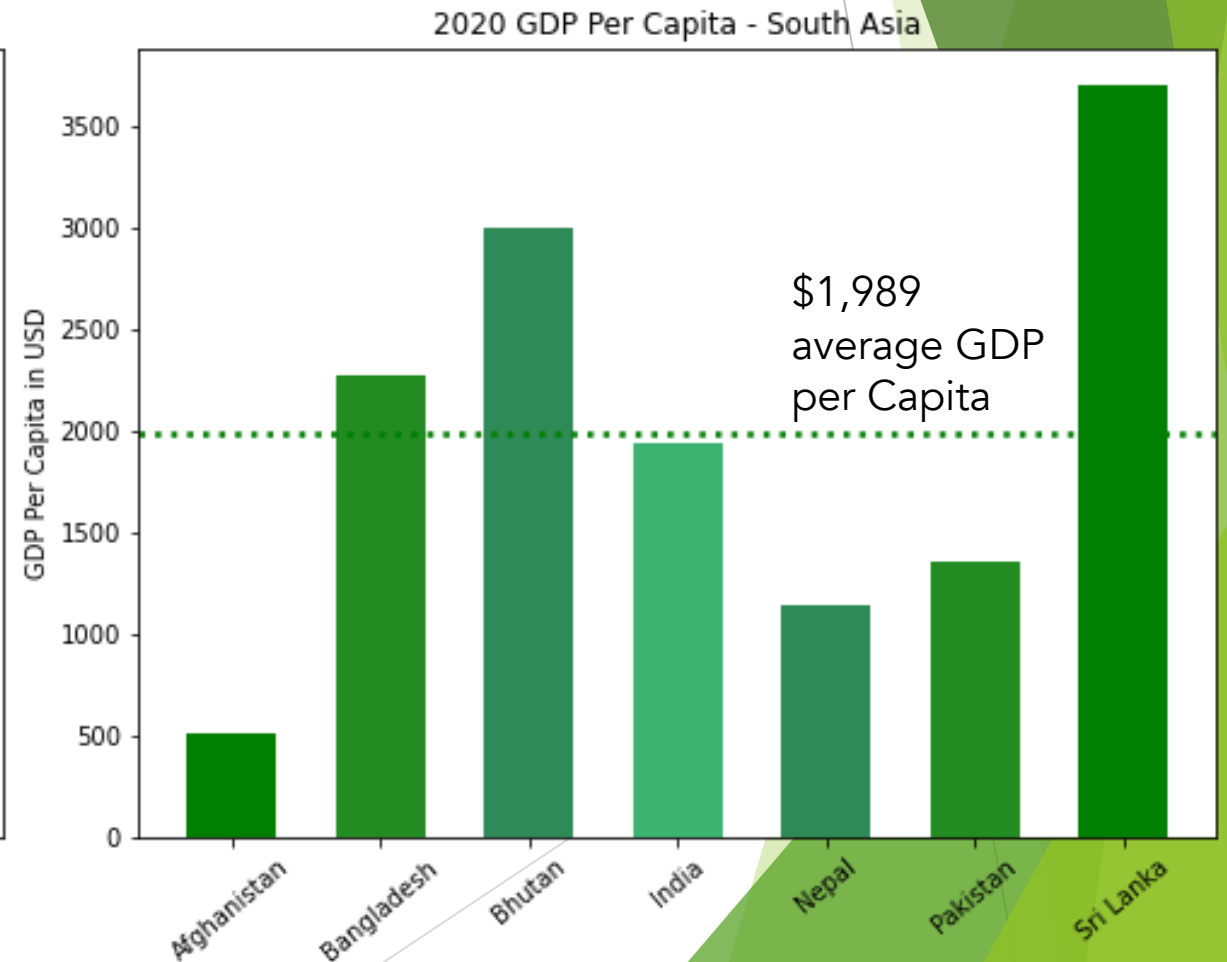
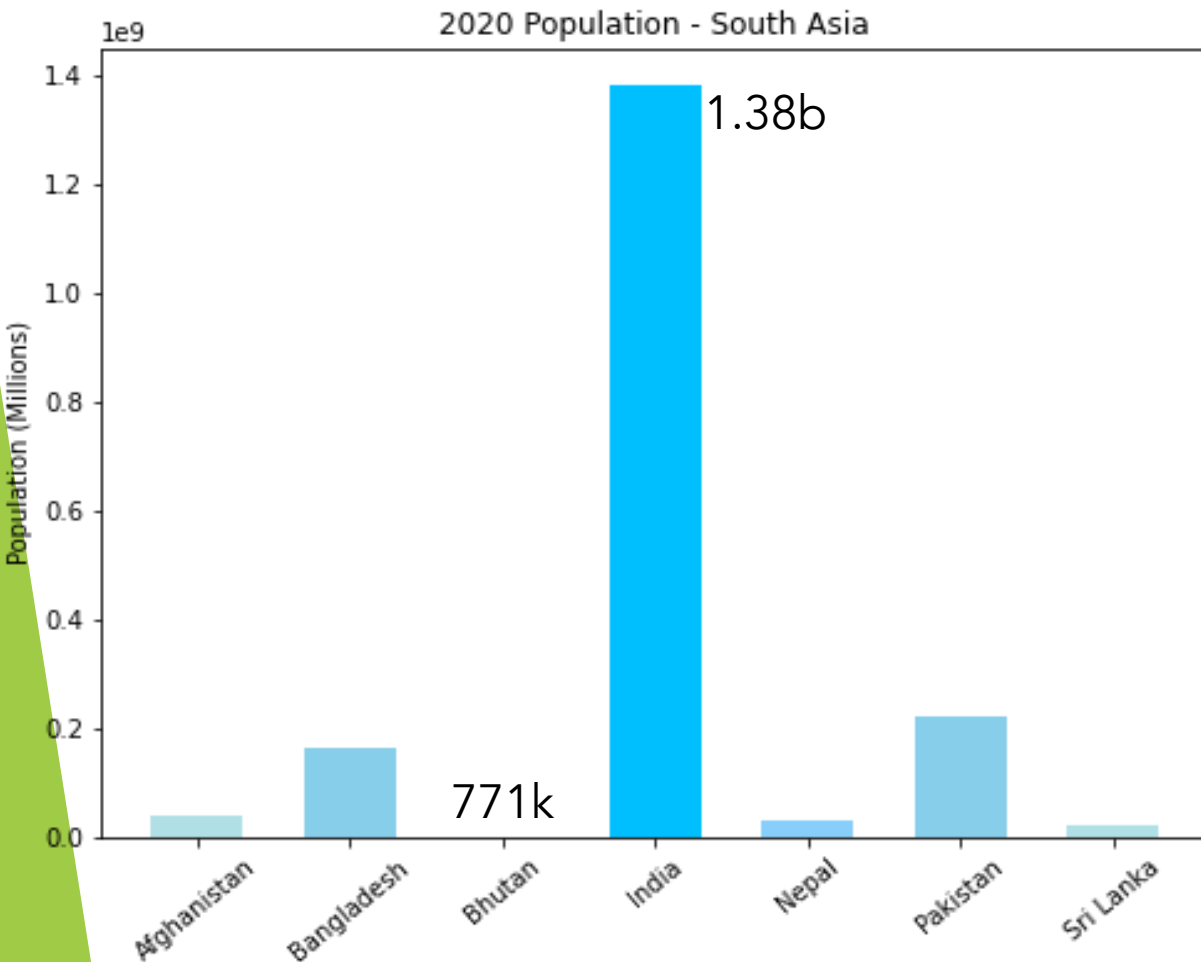
- Food production is measured by the amount of crops harvested and livestock utilized.

# What is the relationship between food production and economic wealth (GDP) among countries around the world?



# Comparing GDP with Population

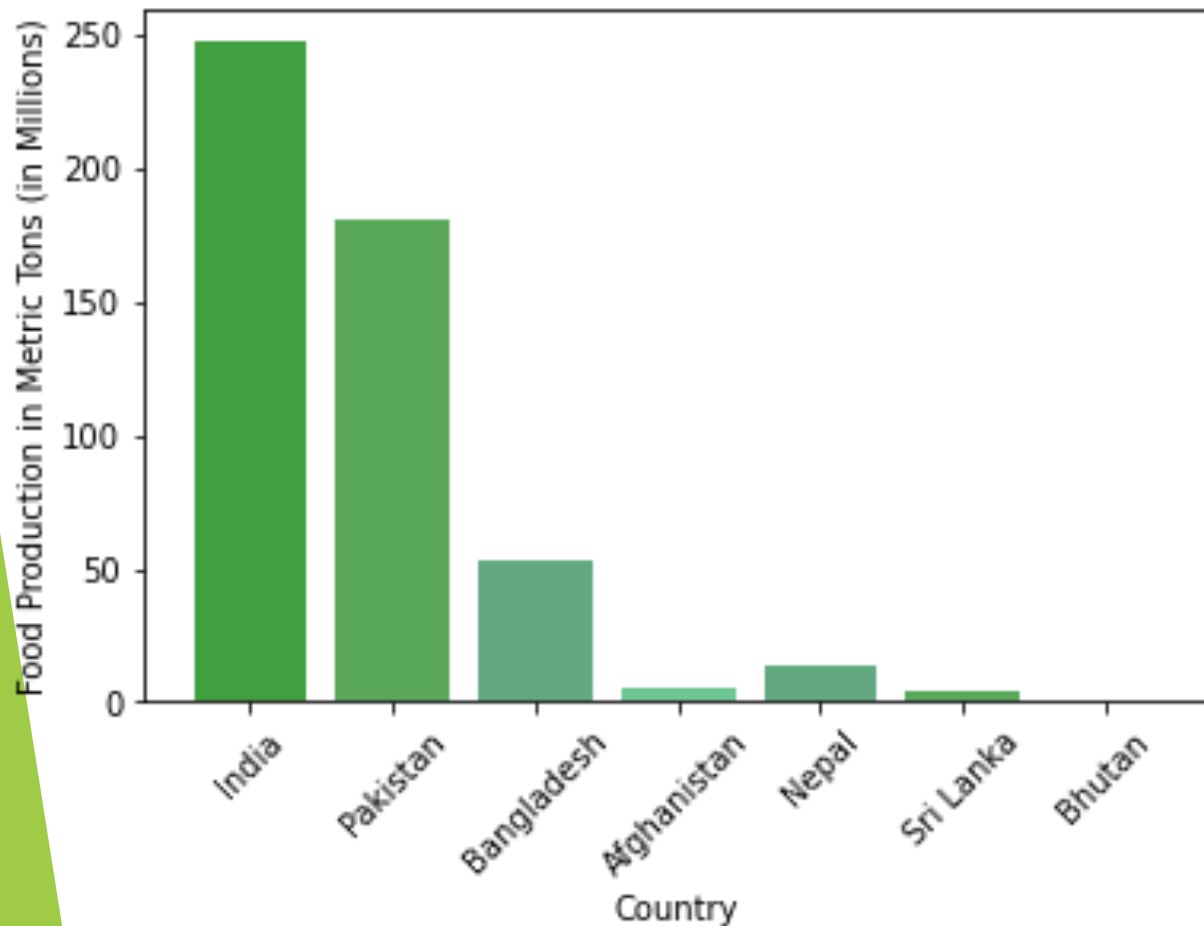
- Question: What is the relationship between GDP and population? In observation, the two smallest countries have a higher GDP, Bhutan and Sri Lanka. India, the most populated country, has a low GDP for how large their population is.



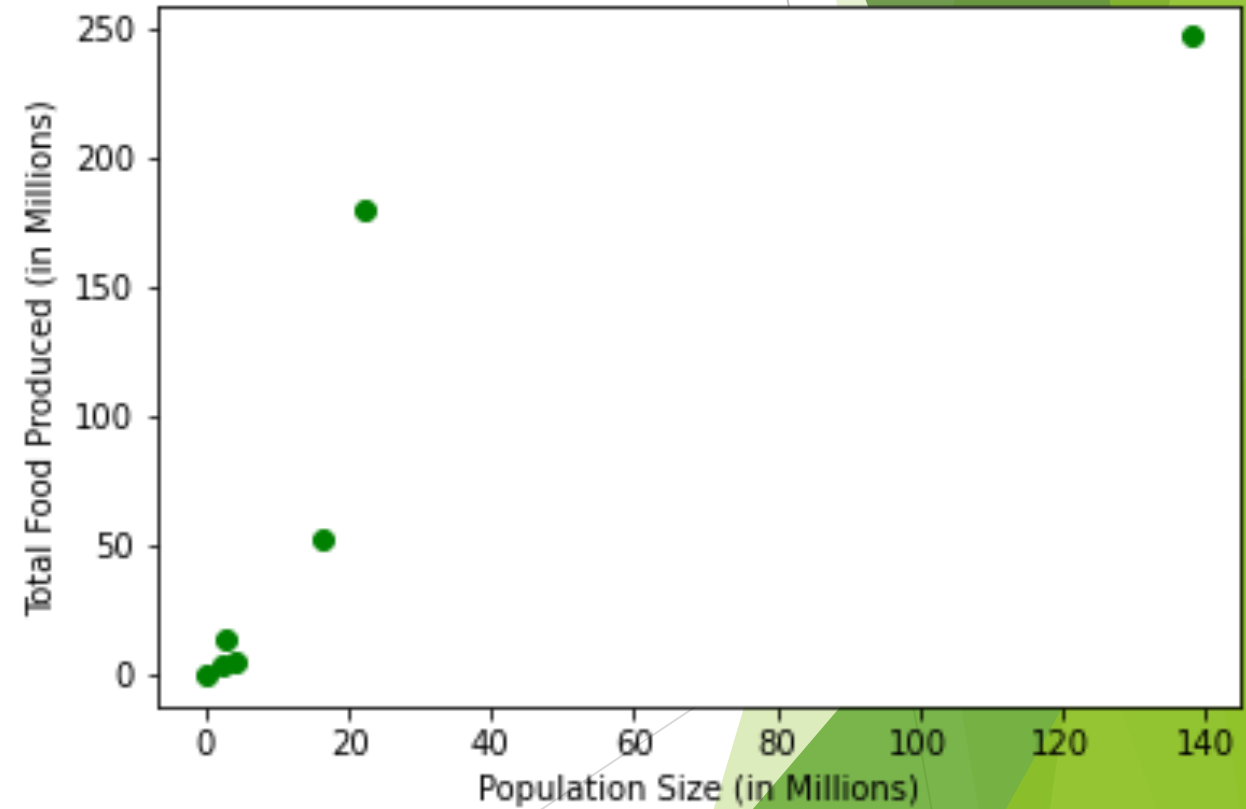
# Food Production and Population

- Question: Does population size correlate to food production?

Food Production in South Asian Countries

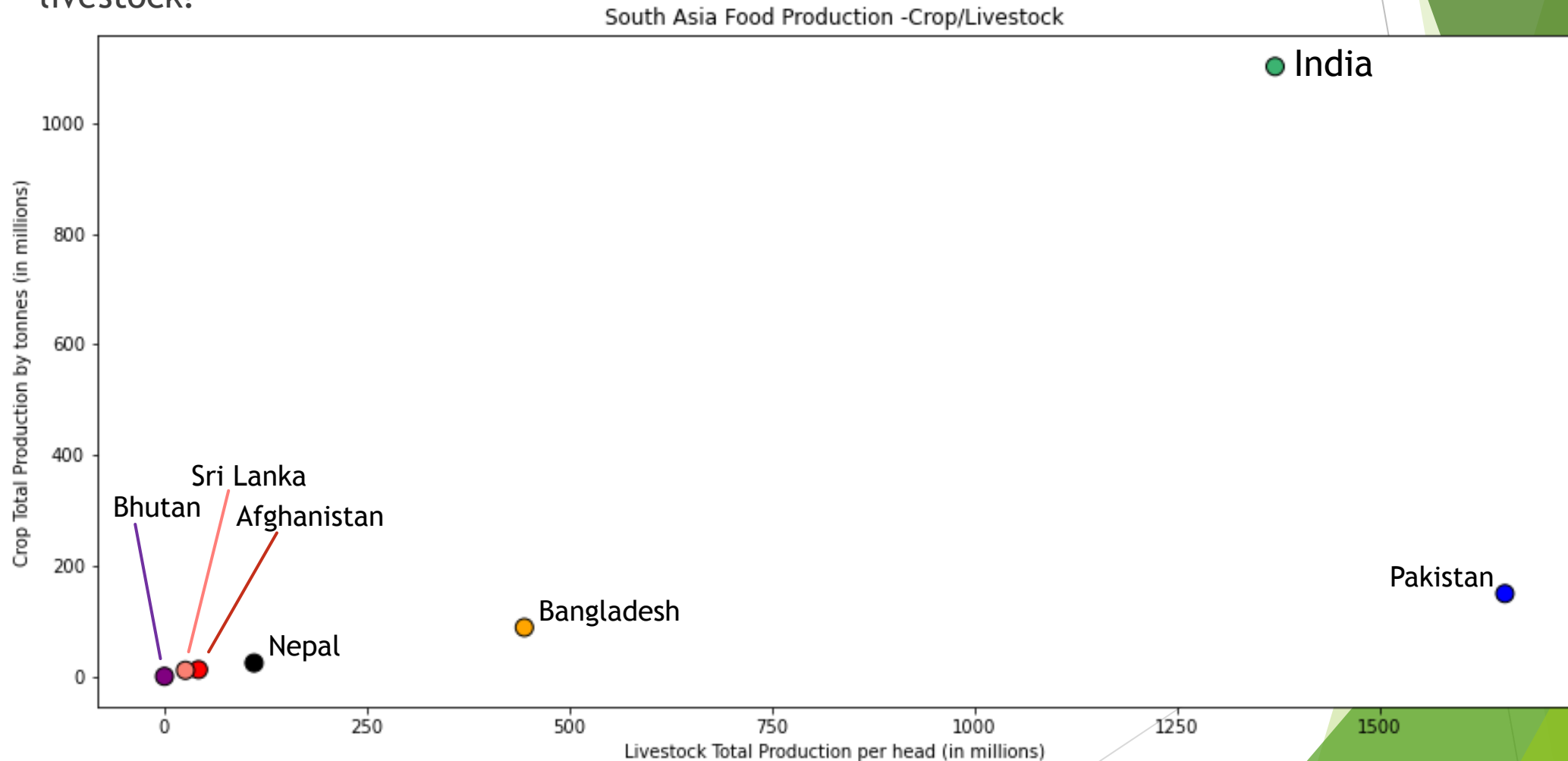


Population Size and Production Correlation of 0.86



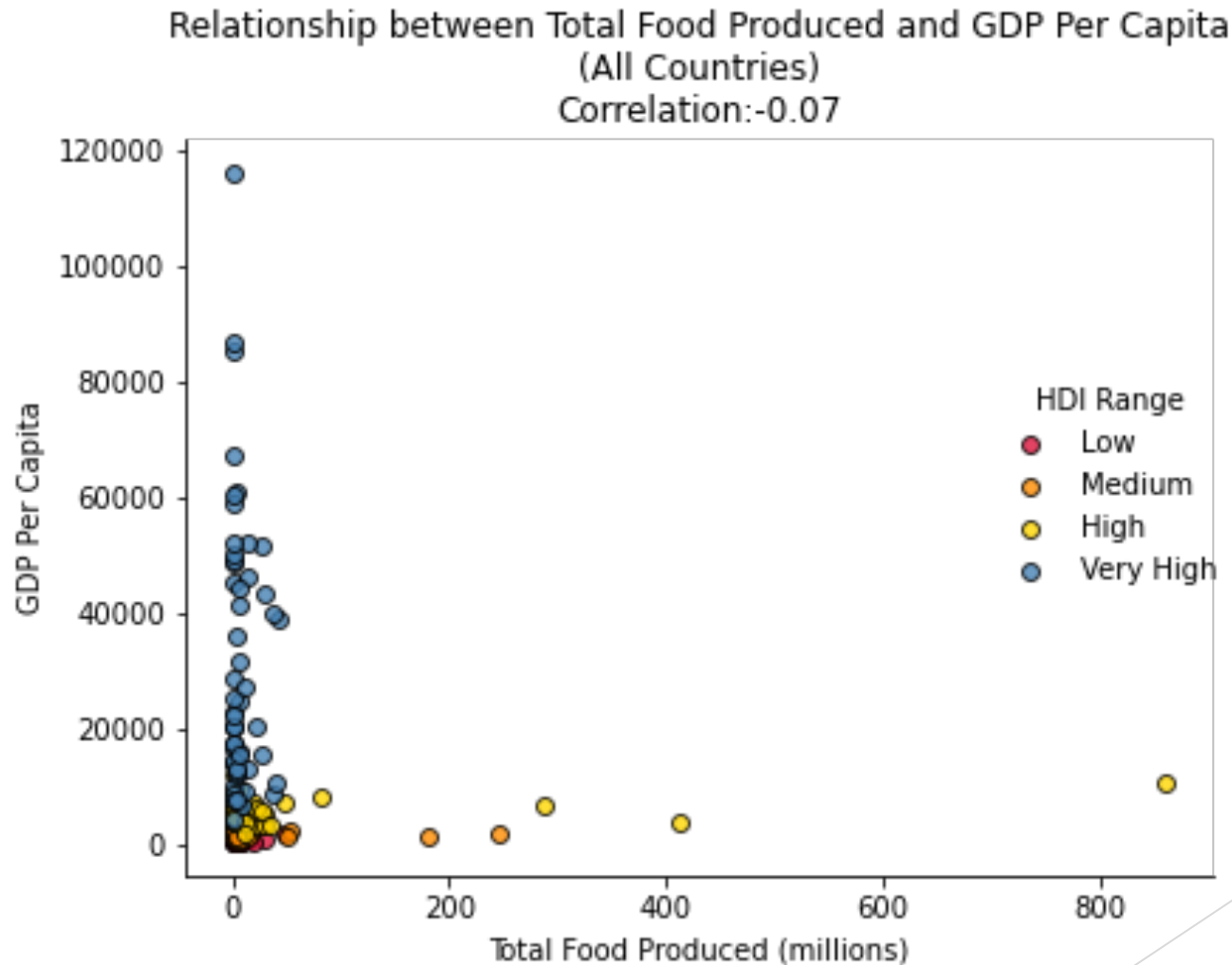
# Food Production

- Question: What is the total food production for each country by crop and livestock?

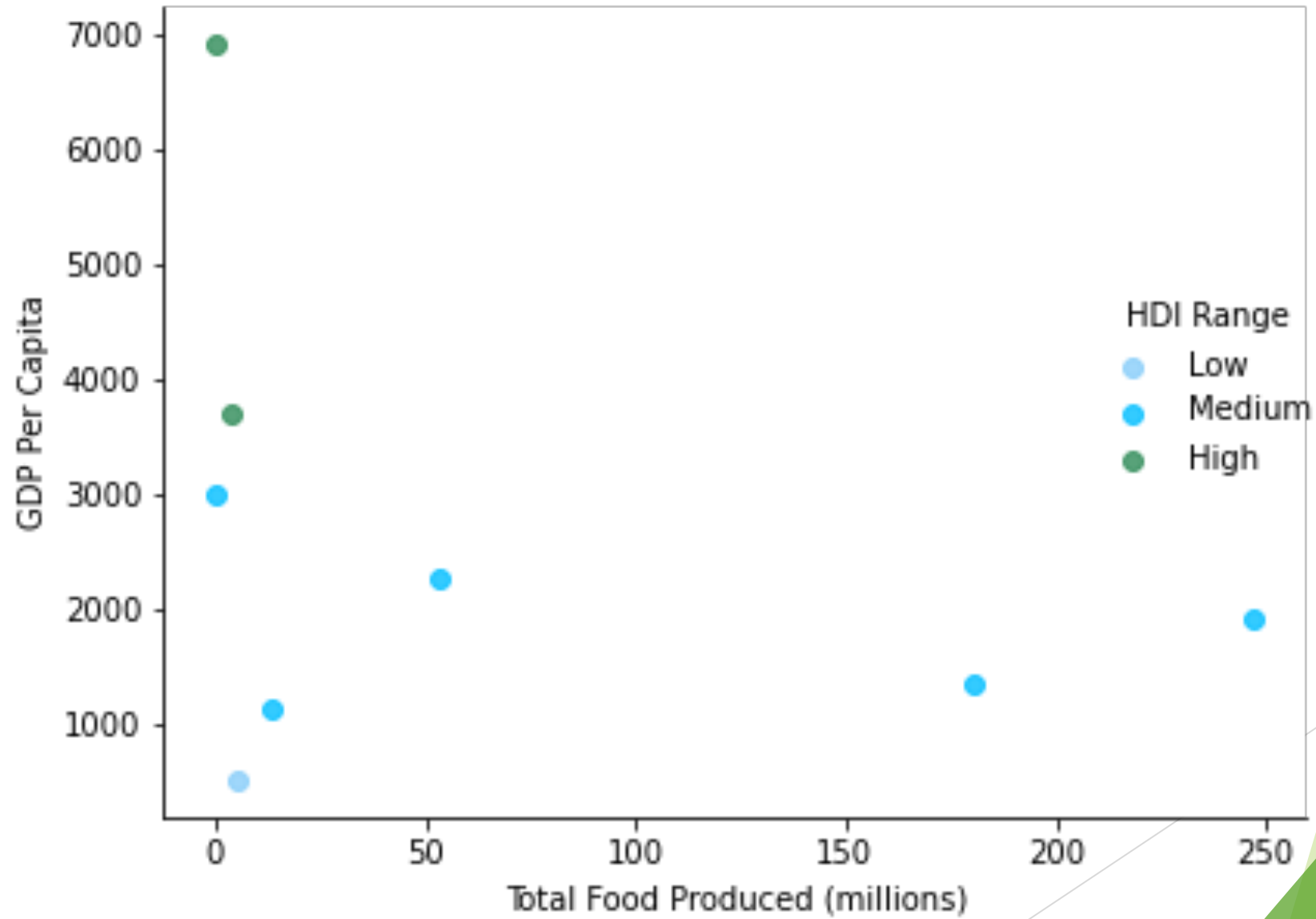




# Does GDP per capita correlate to the amount of food produced?

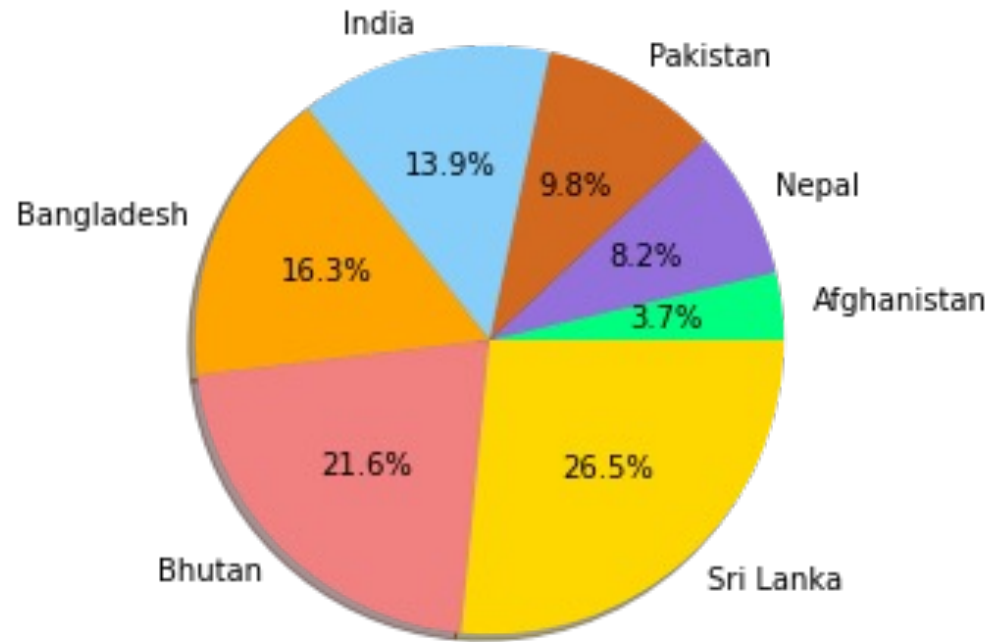


Relationship between Total Food Produced and GDP Per Capita  
Among South Asian Countries  
Correlation:-0.32

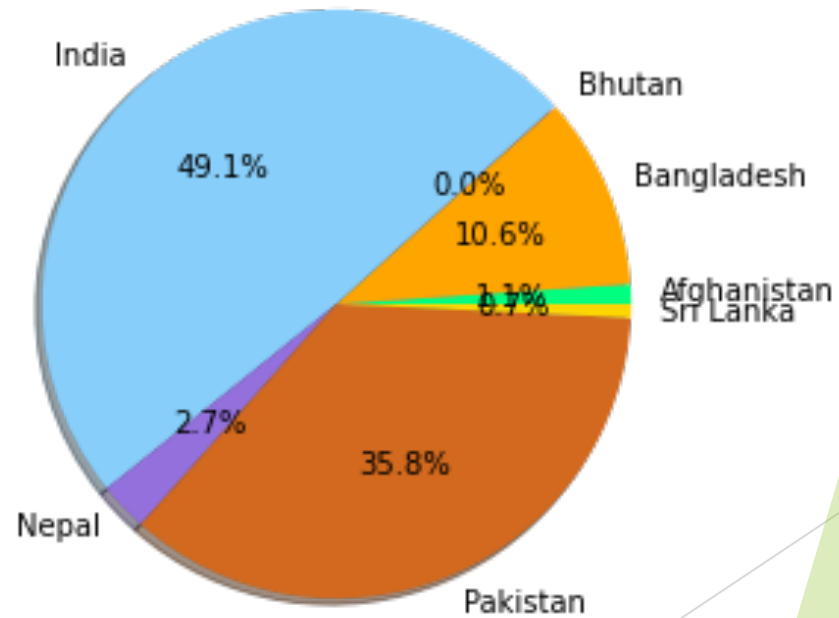


# Visual Comparison of GDP and Food Production

2020 GDP per Capita - South Asia



2020 Total Food Production - South Asia



## Analysis + Conclusion

- ▶ After completing our analysis, we have concluded that there is no correlation between food production and overall wealth of a country (GDP).
- ▶ Food and agriculture only make up 5% of the GDP.

## Next Steps

- ▶ On a smaller scale, continue to analyze regions of the world. Larger scale, compare all of the regions with one another.
- ▶ Could also analyze a larger sector of the economy to see if there are any correlations. Pull in another data set to account for imports and exports.
- ▶ More research and data analysis into the geography, climate, and political contexts would yield more accurate and in-depth analysis.

# Questions?

Thank you