

**A comparative analysis of China and India regarding their economic growth and its impact on the environment****Abstract**

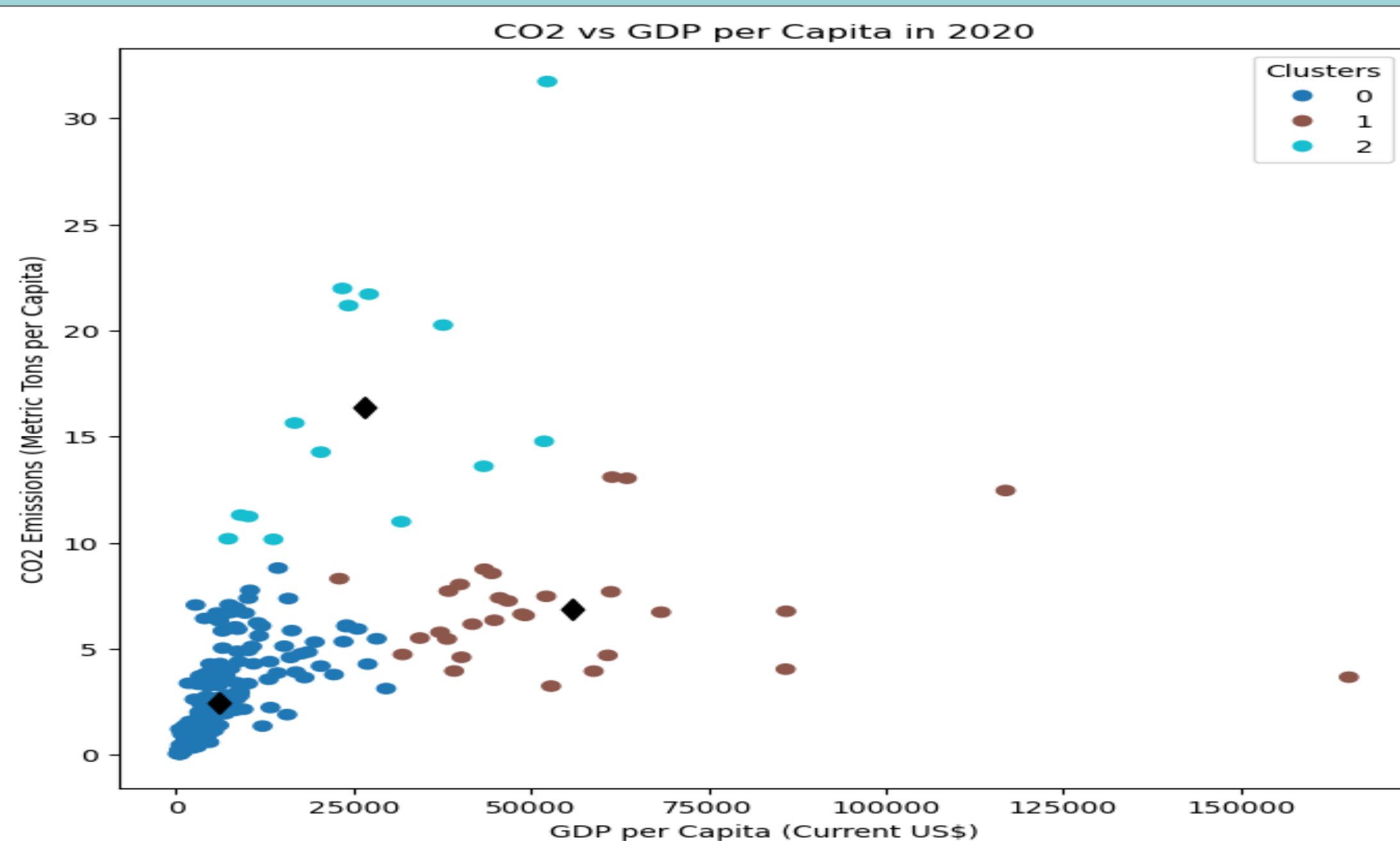
This poster analyzes China and India's GDP per capita growth from 1990 to 2030 using World Bank data and estimates 2030 trends. This poster compares economic growth statistics from China and India to show their differing development paths. The 2020 GDP per capita against CO2 emission scatter plot is also done. This presentation compares economic growth with environmental sustainability. Data on these concerns may help governments create more accurate policy, particularly as the globe rushes into fast economic expansion.

**Introduction**

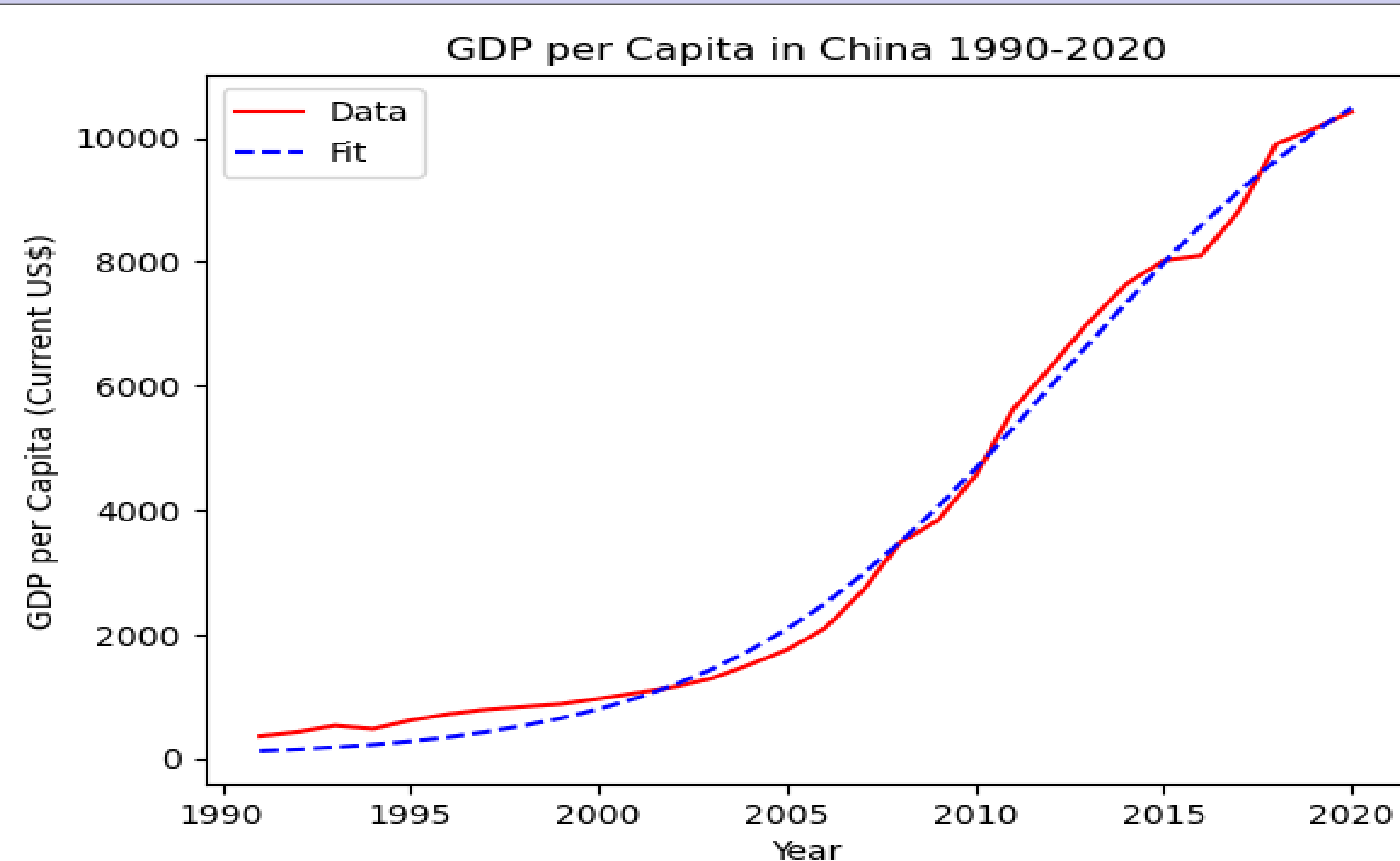
This analysis examines China and India's economic paths using World Bank GDP per capita statistics from 1990 to 2030. It tracks the ecological effects of strong economic development and what it could imply for the future of the world's two most populated countries. A study of CO2 emissions and economic production is also done to put the prior image in context and explore the possibility of high economic development in the future when global environmental sustainability is at risk.

**Clustering results**

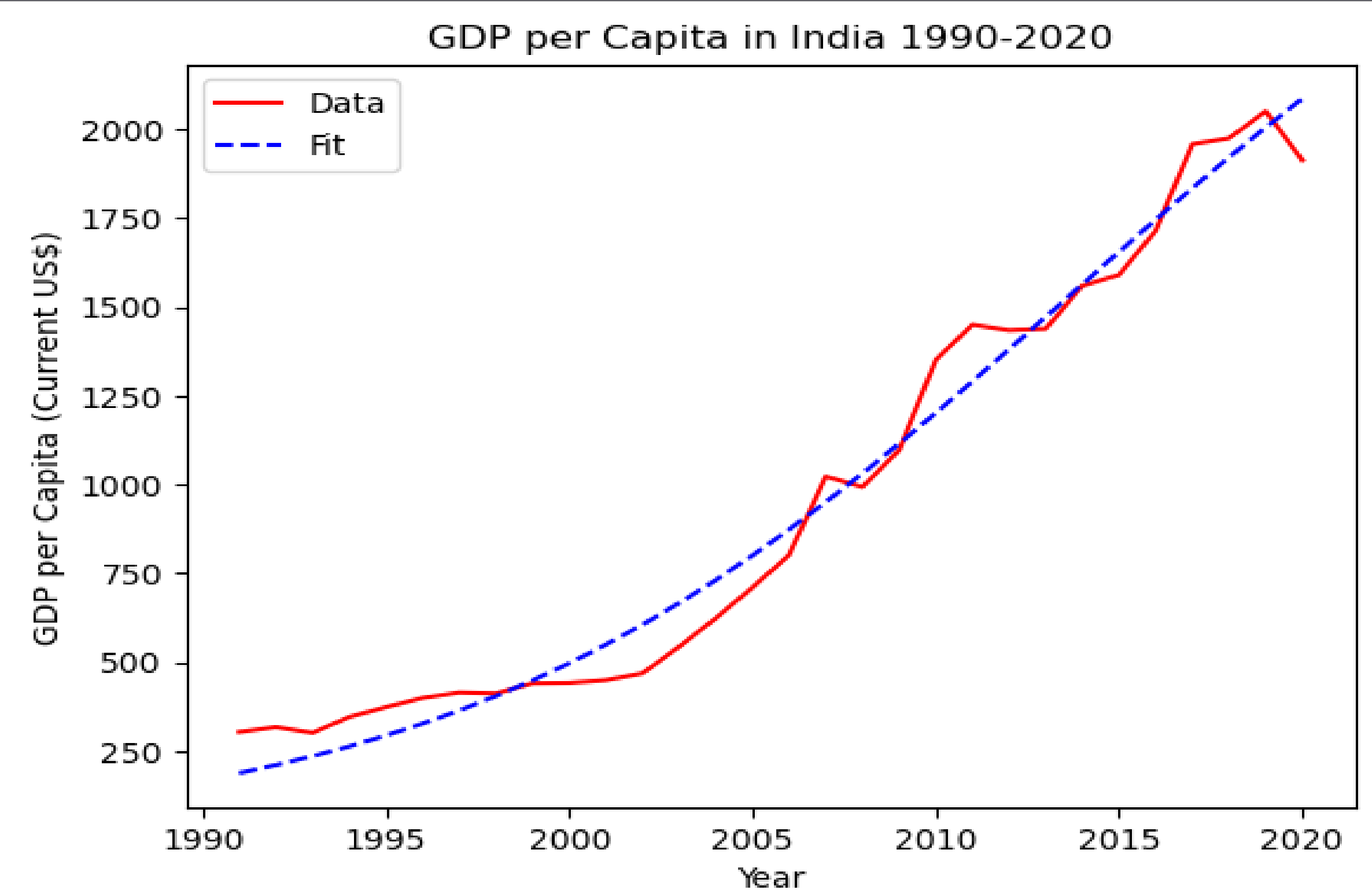
The clustering of CO2 emissions per capita and GDP per capita produces three clusters indicating three different nation types. Low-income countries, lower-middle income countries, and high-income countries.

**CO2 Emission VS GDP in 2020**

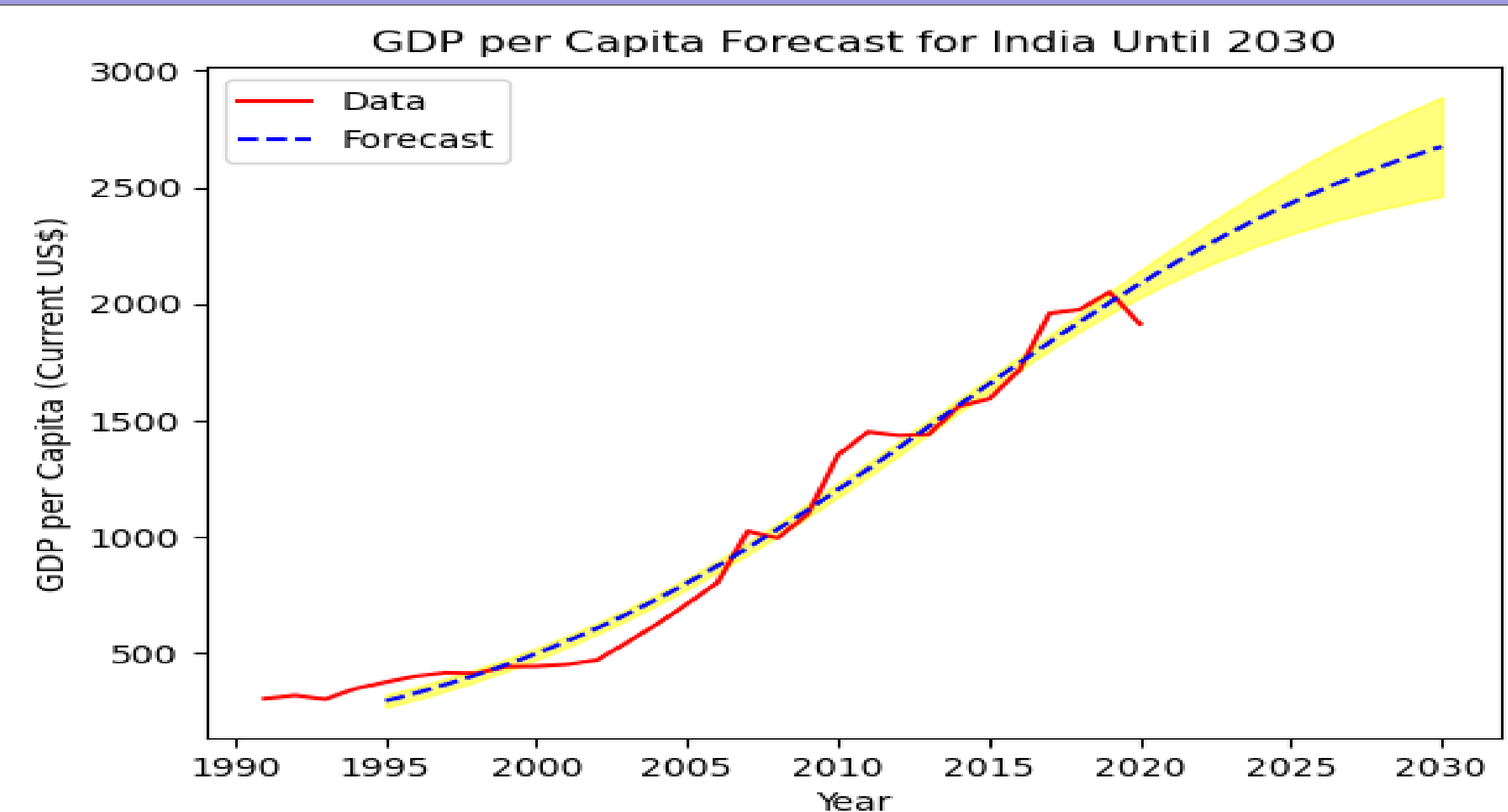
There is a positive correlation in CO2 emission and GDP per capita. In first cluster low emission with low GDP nations are shown, in second cluster high-income countries and in the third cluster there are lower-middle income countries with GDP per capita less than 50000\$ and CO2 Emissions more than 10 metric tons.

**GDP Per Capita in China**

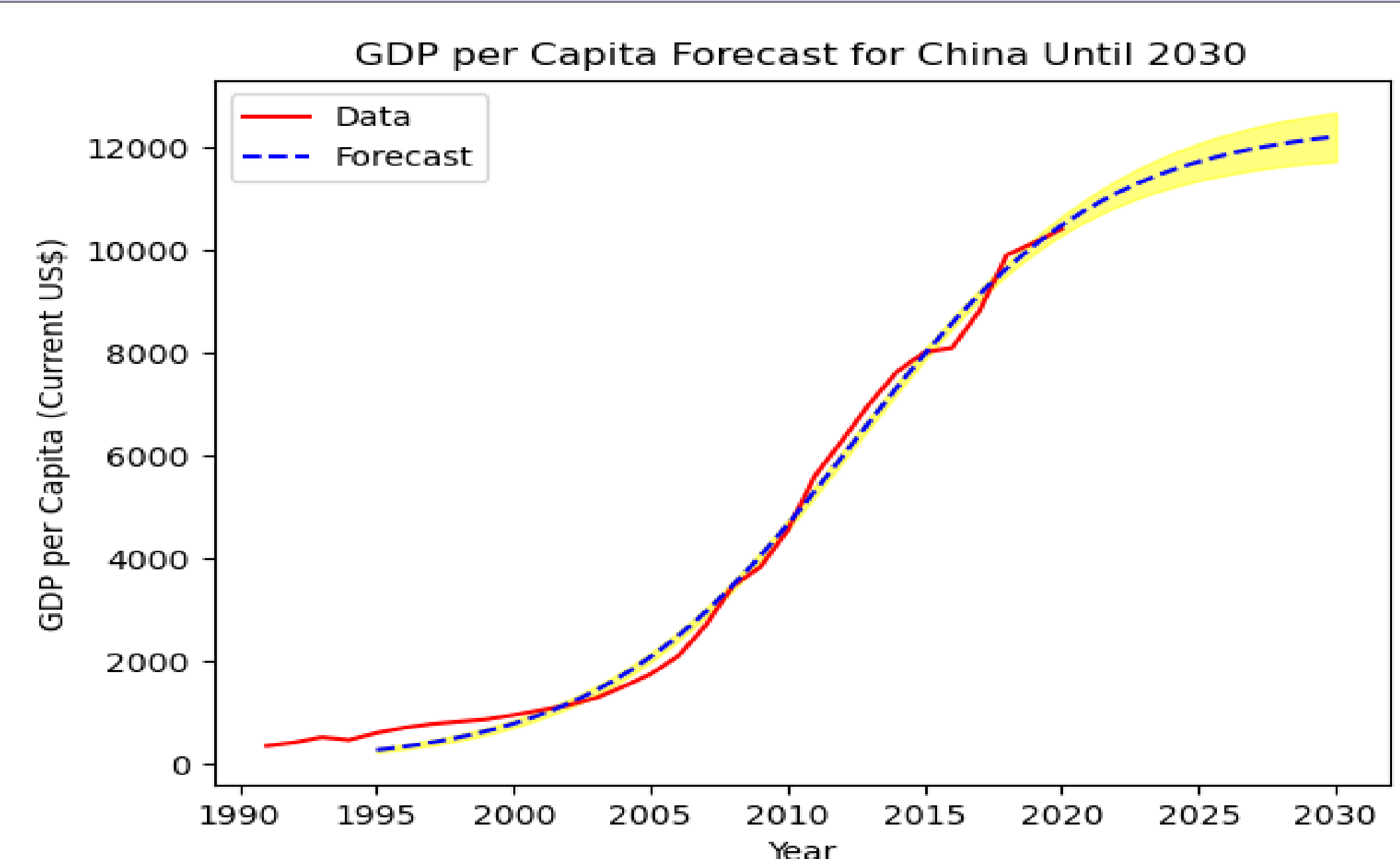
China's GDP per capita growth from 1990 to 2020 was strong, particularly after 2000, and the fitted model closely tracked data patterns.

**GDP Per Capita in India**

From 1990 to 2020, India's GDP per capita grew steadily, accelerating after 2000. The fitted line closely matches the data, indicating strong economic development over three decades.

**GDP Per Capita in India Forecast**

This graph shows India's GDP per capita prediction until 2030, indicating growth. The shaded confidence interval indicates economic uncertainty, but the prediction shows a continuous growth.

**GDP Per Capita in China Forecast**

This graph displays China's GDP per capita projected until 2030, showing a rise. The dashed line forecasts consistent growth, indicating China's economic development with a wide confidence interval.

**Conclusions**

In conclusion, looking at China and India's GDP per capita figures and future predictions shows that both countries will continue to grow their economies. Although past evidence shows that the economy has made a lot of progress since 1990, predictions say that this upward trend will likely continue until 2030. The study of CO2 pollution also brings to light the environmental problems that come with economic growth. So, policymakers need to find a balance between business goals and protecting the earth. In the future, researchers should work on improving these predictions and coming up with ways to lessen the damage that these countries' fast economic growth does to the environment.