

Title: - Analysis and observation of population growth and its effects

Student Name: - Harvi Alpesh Gandhi

Student ID: - 21075077

Git Link: - <https://github.com/Harvi05/Coding-project2/blob/main/main.py>

Abstract:

Growth of world population is serious issue at a worldwide level as it affects so much on other things such as electricity, land, forest area. As global warming is increasing continuously, the major factor is population. To analyse this, several datasets taken into consideration and by plotting graphs observation is done. The data is taken from the world bank dataset factored into the equation with respect to the population, power consumption, forest area, agricultural land and compared using python libraries. From this dataset 4-5 countries are taken into the consideration to compare the dataset and conclude the moto. In this report, all statistics and variations in the trends of metrics considering the population growth.

Analysis and Observations:

The below line graphs indicate the population and power consumption growth in five major countries (India, China, United Kingdom, United States and Canada), respectively. From the population chart it can be concluded that over the period of time Population seems to be continuously increasing for two countries China and India. Because of constant growth in population, Power consumption is also increased and reached to its peak level. However, in

other countries the variation is constant and due to this in power consumption graph also, the plotted data is fluctuated with no major difference. However, India has managed to maintain the power consumption which is great result at the worldwide but in China the result is significant. From this dataset of 5 countries, we can conclude that population effects on power consumption.

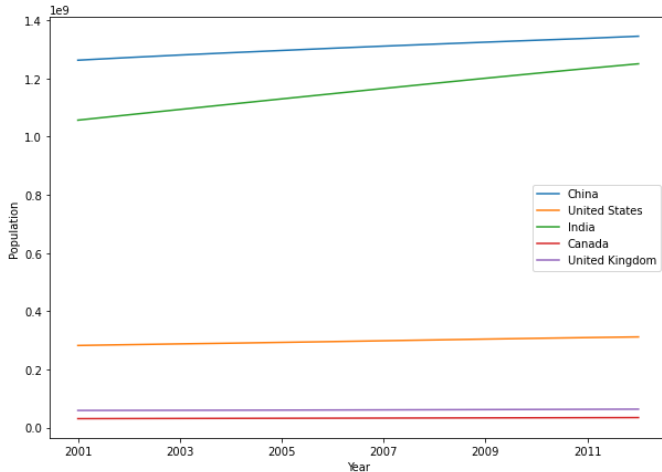


Fig: - 1.1- Population

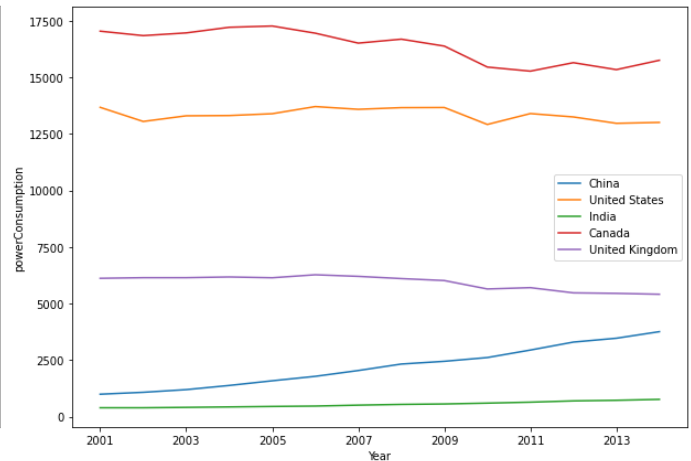


Fig: - 1.2- Power Consumption

The below two-line graphs compare the decrease in agriculture land and forest area. Because of population growth lots of other factors effects the world situation such as forest area, agricultural land, power consumption, etc. Though, there is lots of variation in both of the graph as in some years agriculture land is increasing and but at the in the conclusion its decreasing. However, its not same with the forest area, as there is fluctuation in graph but at the end its same as before 10 years ago. To explain this, between 2001 to 2004 the both agriculture and forest area is continuously decreasing which is not the good sign.

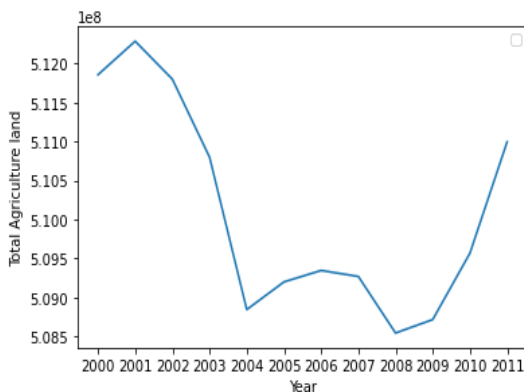


Fig: -1.4 Total Agriculture land

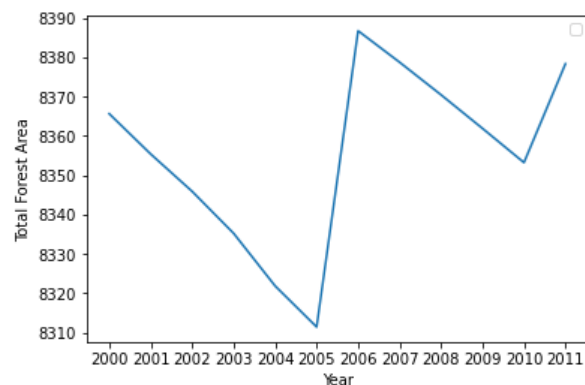


Fig: - 1.5- Total Forest Area

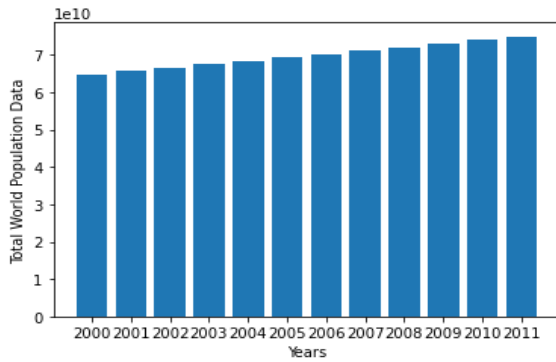


Fig: - 1.6- World Population

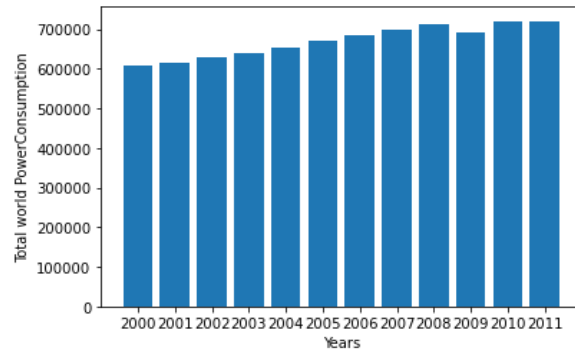


Fig: - 1.7- world Power Consumption

Above two bar graph represents the comparison between world population and world power consumption respectively, during period of 10 years. From the population graph it is clearly visible that over the period of time the world population is constantly increasing. It goes same with power consumption as population increasing the electricity consumption is also increasing.

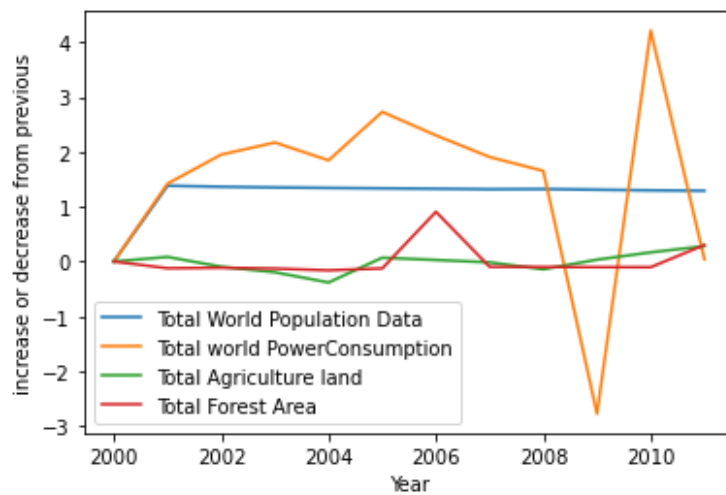


Fig: - 1.8- Combined Graph

The above line graph shows the combination of all the factors such as population data, power consumption, agriculture land, forest area. These are the effects off population growth. From the above graph, it can be concluded that due to major increase in population at world wide level, there are lots of circumstances on the other factors. In some of the years results are very notifying. For example, in between 2008 to 2010 the world power consumption increased in reached to at its peak level. To conclude this, the population is the main source to overcome another situation. If the population is in control, then, every other factor can give significant results.