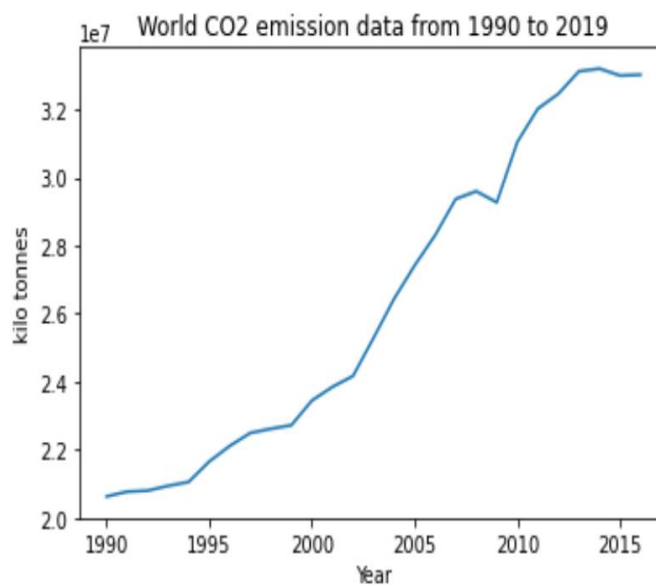


Climate change data analysis based on World Bank data

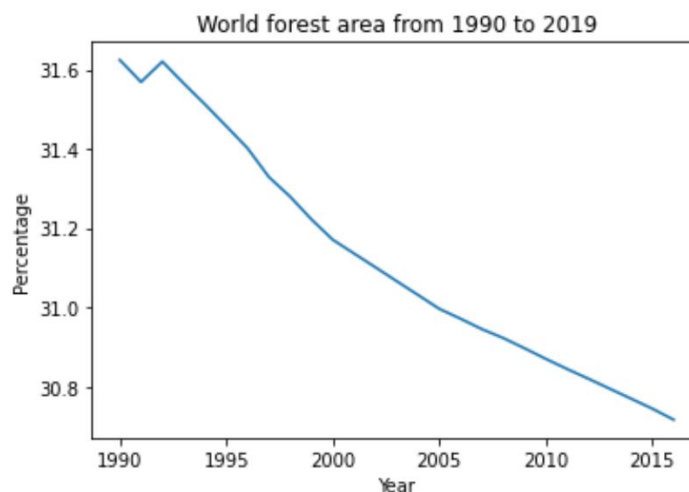
We all know how dangerous is the emission of CO₂ to the climate. Plants and Trees absorb this CO₂ and turn it into oxygen and thus reduces the impact caused by CO₂ on climate. But we see a trend in increasing levels of CO₂ emission into the atmosphere, and also decreasing forest and agricultural land, which in turn is causing double effect on climate. In this analysis, we try to establish this with the help of data.

CO₂ emission in e⁷ kilo tonnes all over the world:

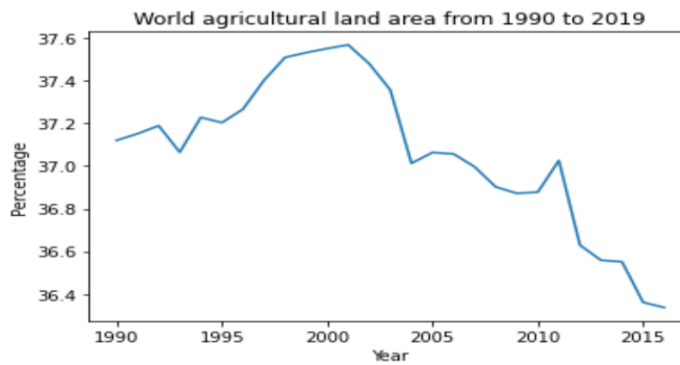


From the above plot, we observe that the carbon di-oxide emitted has risen continuously from 20625272.97 kilo tonnes in 1990 to 33018556.4 kilo tonnes in 2016.

Percentage of forest area all over the world:



From the above plot, we can see clearly that forest area share has decreased from 31.62% in 1990 to 30.71% in 2016. Forest area which constituted nearly 1% of total earth's area has gone extinct in the span of 26 years.



From the above plot, we can clearly see that the share of agricultural land on this earth has decreased from 37.12% in 1990 to 36.33% in 2016. Agricultural land which is nearly 0.8% of the earth's land has gone extinct in the span of 26 years.

The following table shows year wise data from 1990 to 2016:

	Agricultural land	Forest land	CO2 emission amount
1990	37.120737	31.624509	20625272.974149
1991	37.15199	31.568815	20766900.894138
1992	37.189539	31.620467	20796958.433436
1993	37.065197	31.565509	20937123.283988
1994	37.228287	31.512496	21052949.101765
1995	37.204019	31.457344	21652838.848343
1996	37.267015	31.401586	22110607.50998
1997	37.402532	31.329022	22492054.362559
1998	37.510027	31.279438	22613709.035227
1999	37.532322	31.221965	22720117.592763
2000	37.551572	31.17069	23445433.273458
2001	37.568891	31.13582	23845771.44518
2002	37.479819	31.101204	24165261.257135
2003	37.357041	31.06609	25285349.244404
2004	37.013115	31.031363	26434355.260361
2005	37.063804	30.996238	27414328.022854
2006	37.057094	30.971231	28302931.656345
2007	36.996398	30.94503	29368779.202002
2008	36.902595	30.922605	29595752.397156
2009	36.872388	30.896748	29267375.18512
2010	36.877799	30.869964	31043476.982002
2011	37.026376	30.844389	32021108.256795
2012	36.629367	30.819847	32460316.859925
2013	36.558281	30.794674	33119382.990346
2014	36.550972	30.769568	33198729.820472
2015	36.360611	30.744264	32995536.020088
2016	36.336393	30.716421	33018556.39916

Statistics about data:

The average percentage of worlds agricultural land is: 37.06941413075707

The average percentage of worlds forest land is: 31.12508507861765

The average amount of co2 emitted during this period is: 1990 20625272.974149

The correlation between world forest area and CO2 emission is -0.9519015293478802.

The correlation between world agricultural land and CO2 emission is -0.7978683230451403.

There is a very high negative correlation between the amount of CO2 emitted and the forest and agricultural land. From this we can conclude that by reducing deforestation, we can control the level of CO2 released into the atmosphere and there by improve climate.