

## **Impact on Agricultural Productivity due to climate change in Yavatmal District**

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### **Abstract :**

In this paper we analyze the impact on Agricultural productivity due to climate change. Now a day's climate change is a serious problem. It has serious impact on the availability of various resources. Climate change are adversely affecting human health, agricultural productivity. Agriculture is the economic sector which is mostly exposed to climate change. Climate change is a change in the long term weather pattern, local weather condition such as wind, rainfall, etc. can maximize crop production. But change in weather can affect the crop condition. Indian agriculture remains vulnerable to the vagaries of weather and the looming threat of climate change may expose this vulnerability further.

**Key words :-** Agricultural productivity, Climate change, Crop production.

### **Introduction :**

Crop production is directly dependent on weather and climate change. Change in temperature, global warming and increasing concentration of CO<sub>2</sub>, etc. affect crop growth. The impact of climate change on agricultural productivity is considered to be low with adaptation and adequate irrigation climate change is significant long term change in the pattern of average weather. Increasing in anthropogenic activities lead to emission of greenhouse gases due to which the rate of climate change is faster. Higher temperature, changing precipitation pattern affects the production pattern of different crops. From ancient time agricultural productivity has been dependent on monsoon. Any change in monsoon trends to affect agriculture. Higher temperature increases the amount of moisture that evaporates from land and water leading to drought of many areas and also affects crop production. As temperature rise globally, drought will become more frequent and more severe, with potentially devastating consequences for agriculture.

**Study Area :**

Yavatmal is a district which is in Maharashtra. Maharashtra is a third largest state. Yavatmal is a city and it has area of 1137 Sq.km. Yavatmal city has total population as 116551 and population density 1900 km<sup>2</sup> (50000/sq.mi). The coordinates of Yavatmal district is 20-24<sup>0</sup> N, 70.06<sup>0</sup> E. In Yavatmal the average annual temperature is 26.8<sup>0</sup> C.G. The average rainfall is 946 mm. Yavatmal district has a tropical climate. In Yavatmal the forest land is 29859 Kms. And Agriculture land is 727 Sq.kms.

**Impact of Climate Change on Agricultural Productivity :**

Agricultural productivity is more dependent on monsoon from ancient periods. The increasing temperature affect the agricultural productivity. The impact of climate change will be on rain fed or un-irrigated crops. A warmer climate will accelerate the hydrologic cycle, magnitude climate change. Include higher temperature, higher atmosphere CO<sub>2</sub> which may affect on production growth rate, agricultural impacts such as herbicides, fertilizers, etc. The crop losses increase if the climate change increases the climate variability. Different crops respond different as the climate change will have a complex impact. Heavy losses due to climate change affect farmers. Due to this many farmers committed suicide.

The adverse impact of climate change on the agricultural productivity, food grains. It will also impact on human. Thus change in climate variable may have positive and negative impact on agricultural productivity. Increase in crop productivity directly creates more opportunities. Agricultural productivity is an important part which is an integral part of hunger. Solar radiation, temperature and precipitation are the essential driver of crop growth; therefore agriculture has always been highly dependent on climate patterns and variation.

**Conclusion :**

Climate change has significant impact on the agricultural sector. Agriculture contributes to green house emission and also to source of carbon storage. Climate change directly impact on food production across the world. Agricultural sector is the most sensitive sector to the climate change. The climate change determines the nature and characteristics of crops. Due to change in climate cropping

patterns change. Climate change is projected to have significant impacts on agricultural condition food supply and food security.

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