



---

## Climate Change and Its Impact on Economic Growth

---

**Arti Haribhau Pawar**

*Assistant Professor*

*Department of Economics*

*Annasaheb Magar Mahavidyalaya, Hadapsar, Pune-28*

*Corresponding Author – Arti Haribhau Pawar*

**DOI - 10.5281/zenodo.15111138**

---

### **Abstract:**

*Climate change is a major challenge facing our country along with technological progress as climate change has a huge impact on the economy, environment and people's health. In the following paper we will study how and what extent that effect occurs on different sectors as well as how the government achieves sustainable economic development through various schemes to adapt to global warming and climate change and what problems they have to face while doing it has come to prominence through this paper.*

**Keywords:** *Greenhouse gases, Carbon emission, Climate change, Environment, Financial markets, Economy*

---

### **Introduction:**

According to National climate assessment if we don't reduce greenhouse gas emissions and take climate change seriously it could destroy the entire economy due to rising temperature, rising sea level and climate change will disturb the human health, critical source, productivity and same time it negatively affect different sectors such as forest, fishing, tourism. Thus climate change can be seen to affect directly and indirectly in various components of our Indian economy.

### **Objectives:**

1. Examine the impact of climate change on economy.
2. Study the effect of climate change on agriculture sector in India.
3. Analyze the government initiatives that deal with climate change.

### **Methodology:**

This research paper is based on secondary data collected from international journals, magazines, newspapers, news articles, books and government publications.

### **Agriculture:**

Majority of India's population is dependent on the agriculture for livelihood but increasing atmospheric concentration of carbon dioxide and other greenhouse gases will increase the temperature. Due to this the problem of uncertainty and insufficient amount of rain increasing. In some places crops are dying without water while in some places crops are dying under water such as climate change will have direct and indirect effect on crops, livestock and soil. By farming the carbon dioxide base in the insects affect the C3 photosynthesis pathways. If production is low then agriculture export affect badly that create major economic loss.

**Infrastructure:**

Is a key component of human settlement that facilitates activities of the population via building transport, energy, water and communication.

Rising temperature can lead to infrastructure damage from extreme heat events. This can cause the roads and bridges to buckle up or cracks leading to costly repair and potential traffic disruption. In addition heat waves can damage vital electrical infrastructure leading to widespread power outages.

**Human health and productivity:**

The severity and frequency of weather events such as extreme heat, floods and draughts have a significant effect on health.

Major effects on human health:

- 1) Heatstroke due to rising temperature.
- 2) Increased air pollution due to climate change leading to respiratory disorders like asthma.
- 3) Increased water born diseases like Cholera due to polluted water.

**Impact on productivity:**

High temperatures have significantly reduced the physical equivalency of outdoor work, as a result reduced productivity in agriculture and construction.

**Disrupted supply chain:**

Large scale changes in climate can disrupt transportation and effect supply chain, food production and other economic activities.

**Business and Financial market:**

Climate change has not only remained a path breaking issue, but now engulfed the financial market as well as the effect of rising temperature, extreme climate change and investment policies. All reflect a shift in the economic thinking of investors and entrepreneurs. This exposes the financial market to many threats and opportunities. In the past few years climate change has seen increase in financial problems. According to a report by the Network for Greening the Financial System (NGFC) financial market face two types of financial problems or risks due to climate change.

- 1) Physical Risk - Such risks are directly caused by natural calamities.  
Example: windstorms, floods
- 2) Transition Risk - This risk depends on fossil fuel or insufficient production method that affect low carbon energy intensive industries.

**Affected by climate change major economic trends:****Shareholders:**

Climate change seems to affect stock valuation. The stock market has been witnessing major volatility due to policy changes such as energy sector carbon tax and renewable energy incentive. The global carbon pricing dashboard shows that over 60 jurisdictions now implement carbon pricing system. It covers 23% of greenhouse gas emission cover. Renewable energy companies like Tesla and NextEra energy saw significant gains lagging behind conventional oil and gas companies.

**Challenges in mitigating climate change:**

The major challenges being the following

- 1) India is heavily dependent on coal for electricity which increases carbon emission.
- 2) Rapid Urbanization: Urbanization has become important for progress as a result stressing infrastructure has become more complex to deal with climate change.
- 3) Lack of Social Awareness: In remote areas of the country due to the lack of awareness about increasing global temperature people cutting down trees, overuse of plastic and water. All these actions may lead to climate change.
- 4) Inadequate international funding: Various innovative projects have been implemented to deal with climate change but it is becoming difficult to overcome due to insufficient fund allocation.

**Solutions:**

- 1) Increase the use of solar and wind energy sources promote investment in this energy sources
- 2) Emphasis on sustainable economic development through efficient use of limited resources.
- 3) Achieve public awareness through disaster management activities.
- 4) The following government policies are seen to have helped in the implementation of above solutions.

**Government initiatives:**

The Government of India has launched various initiatives to deal with climate change among them the international agreement mandates, National plans and specific programs to change policies.

**International agreements:**

**Kyoto Protocol:** Is a legal agreement that obligates industrialized countries to reduce their greenhouse gas emissions.

**Paris Agreement:** According to this agreement every country is obliged to try to limit the increasing global temperature below 2°C.

**National Plans:**

National action plan on climate change: To deal with climate change in India plans like renewable energy, energy efficiency, water mission, green India mission are implemented. Through all these major climate change has been attempted to lesser extent.

**Conclusion:**

Thus if we only pursue progress that is through urbanization, advancement in technology, what we are doing will have a negative impact on health, agriculture, infrastructure and social amenities. The progress we dream while doing this we have to face financial problems in various fields. We can achieve sustainable development and Viksit Bharat only if we consider environmental protection while keeping the goal of growth and development in front.

**References:**

1. <https://dst.gov.in>
2. <https://moef.gov.in>
3. <https://www.ipcc.ch>
4. <https://www.greenclimate.fund>