

AWARENESS ON CLIMATE CHANGE & ITS POTENTIAL IMPACTS ON NATURAL ENVIRONMENT

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Abstract

Climate change is the representation of change in the long-term weather pattern. It has a great impact on the physical and biological parameters of the environment and also on the lives of human beings of a nation. It affects natural resources, ecosystems, food security, human health etc. The recent natural disasters like tsunami, cyclones, hurricanes, drought, floods and cloud bursts which were witnessed in India had major impacts on the climate. It causes loss of human lives, live stocks, properties, destruction of land masses, loss of agricultural productivity etc.

Introduction:

The United Nations Framework Convention on Climate change on 21st March 1994 states that "Climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere & which is in addition to natural climate variability observed over comparable time periods". The five physical components i.e. atmosphere, hydrosphere, cryosphere, lithosphere & biosphere are responsible for the climate & its variations. Climate change is caused by factors such as biotic processes, variations in solar radiation received by the earth, plate tectonics and volcanic eruptions.

Since the last two decades India and different countries of the world have been facing adverse impacts of climate change. India is extremely vulnerable due to the climate change phenomena. The risk factors are multiplying day by day. The economic growth and social harmony is hampered due to natural disasters and huge amount of money is diverted for the victims for the rehabilitation process. The economically underprivileged sections of the society are extremely vulnerable due to climate change. The frequent occurrence of cyclone, flood, drought, rise in temperature and changes in rainfall pattern affects the yield of various crops and marginal farmers are the most affected ones due to the adverse climatic conditions. Hence the situation compels poor farmers to commit suicide.

Data of Some extreme weather events in India due to climate change during 2013-2014.

S.N.	Name of the state	Year	Nature of Disaster event	Nature of loss
01.	Maharashtra	Feb. & Mar. 2013	hailstorm	two million ha. farmland affected and loss of agricultural productivity
02.	Kerala	Apr. to June 2013	drought	fourteen district affected
03.	Kerala	July 2014	incessant rainfall	loss of crops worth Rs.11.2 crore
04.	Andhra Pradesh	Oct. 2014	Cyclone Hudhud	affected 60,000 families & loss of about Rs.70,000 crore in Visakhapatnam & Srikakulam
05.	Odisha	Oct.2013	Cyclone Phailin	nine million people affected
06.	Uttarakhand	June 2013	Cloudburst	5,000 people died & economic loss of Rs.7,346 crores
07.	Bihar	Aug. 2014	flood	1.8 million people affected

Adverse effects of Climate change:

- (a) The natural resources and ecosystems are severely affected
- (b) There is an adverse impact in Coastal ecosystem due to rise in sea water level
- (c) Reduction of surface water and ground water resources
- (d) Extinction of many species of flora and fauna in terrestrial and aquatic ecosystems due to habitat modification, over exploitation and pollution
- (e) Outbreaks of diseases due to variations in Temperature
- (f) Increase in summer monsoon
- (g) Changes in forest types
- (h) Frequent tropical cyclones, floods and droughts
- (i) Threatened food security due to large reduction of agricultural crops

Strategies to deal with climate change

Until recently there was no comprehensive plan to tackle the situation both by developed and developing countries. The UN Climate summit at Lima in 2014 framed a new protocol to regulate greenhouse gas emission from December 2015. India must have a concrete plan on reducing GHG emission to combat with climate change. Following strategies may be adopted to reduce the adverse impacts of climate change

- (a) Reduce greenhouse emissions so that the temperature rise can be halted
- (b) Implement massive afforestation programme in available land and degraded forest areas
- (c) Reduce all types of pollution in the environment
- (d) Reduce Carbon di-oxide emission to a greater extent to minimize global warming
- (e) Control population explosion in India and also in the world to reduce the utilisation of natural resources
- (f) Eradicate poverty and ensure better human health care
- (g) Strengthen forecasting and warning system of all natural disasters to minimise the loss of human lives and movable properties.

Conclusion:

There is a need to understand the root causes of various problems related to climate changes and to design various strategies to check the causal factors at the grassroot level and to provide effective safeguards for the same. This should be carried out by involving the state and central Govt. machinery, NGO's., Ministry of forest and Environment, Pollution Control Boards at regional, State and Central level, Voluntary organisations and people at large. The concept of "Think globally and act locally" should be implemented effectively to tackle the recent environmental problems.

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