

CLIMATE LITERACY AND CLIMATE EDUCATION.**Mrs.Arya Ajit Tawde.***Research Scholar**Gandhi Shikshan Bhavan's, Smt.Surajba College of Education, Juhu, Mumbai**E-mail: aryatawde33@gmail.com***ABSTRACT**

The present paper attempts to discuss the effect of climate change on a global scale. Due to the emission of large scale poisonous gases in the atmosphere for development activities by both developed and developing countries, the world is facing the consequences in the form of global warming. Its solely the responsibility of Human activities responsible for this menace hence time has come at create awareness among the public and government to take immediate steps to mitigate climate disaster as a global mission through climate literacy and climate education.

Key terms: *climate change, climate literacy, climate education, awareness of human activities.*

Introduction

“A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people.” – Franklin D. Roosevelt.

The year 2019 has witness a record breaking monsoon in India for more than 25 years. The overextended monsoon and retreating monsoon both have become a cause of concern not just to the farmers and the government but also the common people High level of air pollution in Delhi and the forest fires in Amazon and California raises alarming signals of the turbulence occurring in our environment. As a developing country India's contribution to greenhouse gas is very less but it has already come under the ambit of facing severe environmental crisis. Time has come to acknowledge that all is not normal out there and the global community has to respond effectively to the vagaries of the nature before it is too late. Climate literacy and education should be an interdisciplinary approach. To combat climate crisis we need a comprehensive policy involving all the stakeholders, for that climate literacy and climate education is a must for the citizens of the world. The Paris Agreement deal aimed at reducing the global green house gas emission with an intention of reducing global temperature rise. It's a process where developed nations would assist the developing nations to curtail the use of green house

gases. But USA's exist from Paris Agreement on climate change throws up huge challenge for the global community's efforts to restrict the rise in temperature to well below 2 degree Celsius in order to prevent the worst impact of climate change. US exist from the agreement leaves a void to be filled by the world both in terms of finance and technological knowhow. Most of the countries in the world do very little to control carbon emission and find renewable energy resources. The world is on the brink of facing major Climate disaster. The fear expressed by 11000 scientists from 153 countries is that "Untold Suffering" is inevitable. Hence the world requires a total shift in its activities to stabilize our eco system from further damage. According to the letter published in 'Bioscience' Journal scientists are of the view that climate change has arrived and is accelerating faster than it was expected. According to Professor William Ripple, "Despite 40 major global negotiations, we have continued to conduct business as usual and have failed to address this crisis."

Climate Literacy

Groups of scientists and educators developed an initial framework for weather and climate education. The outcome of this meeting is a document "Climate Literacy: Essential Principles and Fundamental Concepts" (NOAA, 2007). Their definition of climate literacy is as stated.

"Climate literacy is an understanding the climate's influence on you and society and your influence on climate." A climate literate person:

- understands the essential principles of all aspects of the Earth system governing climate patterns
- Knows how to gather information about climate and weather, and how to distinguish credible from noncredible scientific sources on the subject
- Communicates about climate and climate change in a meaningful way.
- Makes scientifically informed and responsible decisions regarding climate.

Climate Education: According to UNESCO "Education is an essential element of the global response to climate change. It helps people understand and address the impact of global warming, increases "climate literacy" among young people, encourages changes in their attitudes and behavior, and helps them adapt to climate change related trends. Education and awareness-raising enable informed decision-making, play an essential role in increasing adaptation and mitigation capacities of communities, and empower women and men to adopt sustainable lifestyles."

Causes of Climate Change: Human activities responsible for environmental degradation are:

- Increasing Urbanization
- Deforestation
- Industrialization
- Increase in demand for energy
- Burning of fossil fuel emits harmful greenhouse gases like Nitrous Oxide, Carbon dioxide and water vapour.
- Releasing Synthetic compounds like chlorofluorocarbons' (CFCs) in the atmosphere destroys the ozone layer.
- Population Growth due to increase in fertility rate

Scientific Facts of the Consequences of Climate Change.

- **Global Temperature Rise:** The planet's average surface temperature has risen about 1.62 degrees Fahrenheit (0.9 degrees Celsius) since the late 19th century, a change driven largely by increased carbon dioxide and other human-made emissions into the atmosphere.
- **Warming Oceans:** The oceans have absorbed much of this increased heat, with the top 700 meters (about 2,300 feet) of ocean showing warming of more than 0.4 degrees Fahrenheit since 1969.
- **Shrinking Ice Sheets:** The Greenland and Antarctic ice sheets have decreased in mass. Data from NASA's Gravity Recovery and Climate Experiment show Greenland lost an average of 286 billion tons of ice per year between 1993 and 2016, while Antarctica lost about 127 billion tons of ice per year during the same time period. The rate of Antarctica ice mass loss has tripled in the last decade.
- **Glacial Retreat:** Glaciers are retreating almost everywhere around the world — including in the Alps, Himalayas, Andes, Rockies, Alaska and Africa.
- **Decreased Snow Cover:** Satellite observations reveal that the amount of spring snow cover in the Northern Hemisphere has decreased over the past five decades and that the snow is melting earlier.
- **Sea Level Rise:** Global sea level rose about 8 inches in the last century. The rate in the last two decades, however, is nearly double that of the last century and is accelerating slightly every year
- **Declining Arctic Sea Ice:** Both the extent and thickness of Arctic sea ice has declined rapidly over the last several decades.

- **Ocean Acidification:** Since the beginning of the Industrial Revolution, the acidity of surface ocean waters has increased by about 30 percent. This increase is the result of humans emitting more carbon dioxide into the atmosphere and hence more being absorbed into the oceans. The amount of carbon dioxide absorbed by the upper layer of the oceans is increasing by about 2 billion tons per year.

Need for Climate Literacy & Climate Education

- ❖ Climate literacy & Climate education should not be just limited to schools and colleges but should also cover large number of likeminded individuals who can put a strong resistance against human activities responsible for environmental hazard.
- ❖ It is of utmost importance to make every individual aware how they too are indirectly involved in creating a menace with the biodiversity of the Nature.
- ❖ There is an urgent need to involve a large number of efficient citizens in the social cause to train the young minds about the new emerging issues related to their health and the ecosystem.
- ❖ Our youngsters should be equipped to understand the changing climate pattern and find out the ways and means to resolve the issue.
- ❖ Climate change awareness will not only help the youngsters to know the short term consequences but also the long term consequences as they are the future citizens.
- ❖ It will assist them to choose an appropriate career by knowing the future demand and supply relations.
- ❖ There will be a climate of innovations all around to find out ways and means to develop alternative sources of energy.
- ❖ Food grain production and consumption pattern will also undergo dramatic change.
- ❖ Different types of new diseases will emerge and to combat them through research & development activities will go in full swing to develop new drugs.
- ❖ There will be adaptation of new strategies to save the environment from further degradation.

Scientists set out a series of urgent steps to slow down global warming.

- Use energy far more efficiently and apply strong carbon taxes to cut fossil fuel use
- Stabilize global population – currently growing by 200,000 people a day – using ethical approaches such as longer education for girls
- End the destruction of nature and restore forests and mangroves to absorb CO₂
- Eat mostly plants and less meat ,reduce food waste
- Shift economic goals away from GDP growth

Role played by India to fight Climate change: Being a developing country India has to play a very important role in taking the initiative by implementing measures to curb down carbon emission in the atmosphere. Recent smog in the nation's capital has raised eyebrows on what we preach and what we actually do to control pollution. The following document published by the Prime Minister's Council on Climate Change (Government of India), aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the community as a whole, on the threat posed by climate change and the steps proposed at the level of India to counter these changes.

Eight National Missions form the core of the National Action Plan on Climate Change ((NAPCC) , which represents a multi-pronged, long-term and integrated approach for achieving key goals in the context of climate change. These include: National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a Green India, National Mission for Sustainable Agriculture, National Mission on Strategic Knowledge for Climate Change. Thus we conclude that Climate mitigation and adaptation should be a shared responsibility of every society. There should be conservation of the environment and efficient use of resources with greater responsibility of recycling the goods. Opting for alternative non conventional renewable resources. Hence climate literacy and climate education should stimulate every individual towards minimizing wastage and making the world a better place to live for generations to come.

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