Nature, Life Forms & the Environment

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Abstract:

Climate change has led to dedicated efforts, campaigns and movements to understand know and conserve the virtues of the environment at local, national and international levels by governments, corporations and self help groups. Environmental education is being emphasised upon at all levels of education like primary, secondary and higher education. It is important that environmental education be made compulsory and an integral part of the academic curriculum of schools, colleges and universities, teachers, professors and all academia be engaged in research on the environment while facilitating the broadcast and sharing of this knowledge on platforms like print, electronic and digital media.

Each endowment of nature on earth has complementary relation with one another. Damage caused to one endowment of nature spills over to the other endowments. Many of the evil effects are now showing up. Forest areas are great enablers of environmental balance Forests play the role of a sheet anchor in the campaign for environment conservation. Consequently any destruction of forests causes the maximum environmental damage.

Executive Summary

The increasing impact on nature, life forms and environment mandates due attention. There are mounting challenges to the existence of all life forms. The challenges posed to nature and environments are so grave that there are threats of extinction haunting some life forms. The root cause behind this is the reckless behaviour of life forms.

Nature nurses mankind. It seems difficult to sustain the historically harmonic relations that mankind has had with nature. The equilibrium among life forms, rising human population and nature has been distorted. Man has expropriated all possible natural resources for his benefit. The result is that there has been a qualitative deterioration in the environment. The impact has been felt in terms of air, water and soil pollution and climate change. Man has tried to use even these elements of nature to his benefit. Consequentially the graph of quality of life has gone down instead of going up. If steps are not taken to combat climate change, there might be serious consequences in the future. Had man been conscious of the ill effects on nature and environment, he would not used the environment as a waste sink.

Foreword

All elements of nature attain equilibrium through natural processes. There is an anonymous saying that unless man interferes with the working of nature he shall not face any trouble. Yet when man nurses the intention to tinker with nature and disrupt its normal course, nature shall punish him.

The life of the early man was so peaceful. Tides emerging rivers and seas, freshness of flora and fauna, the calls of the animals in the wilderness, the flowing winds, and the free flight of birds and the roars of wild animals complemented each other. Nature nurtured and protected man like a mother.

Yet the present is cut off from the ancient past. The beauty of nature is too far from us. Land, water, air, wild life, forest area, seas and every natural endowment is a gift of nature to us. Every life form relates to nature in some way or the other. Yet the relationship that plants and animals have with nature is older than that of us human beings. The wheels of life roll on this complementary relation between nature and us.
According to Satyaprakash (1998);

"*Nature is our Goddess. Pollution of nature leads to the pollution of mind and thoughts. Hence it is in our best interests that we protect and conserve nature."*

Nature & Life Forms

The capabilities of a life form are determined by its nature. These capabilities amount to nothing more than the inherent virtues and original tendencies. Life in the present moment is the real life. There is no life beyond this life and no world beyond this world. This forms the basis on which unchangeable and eternal laws of nature explain the reasons behind every phenomenon. Hence new knowledge on worldly life and metaphysical aspects of life are to be attributed to the watershed inventions of machines and great discoveries of scientists. Hence it is imperative for life forms to acquire a deep understanding of nature. Nature in itself is a great superset and life forms are subsets of this super set and complete in themselves. Hence the greatness of a life form as an animal is determined as per its capabilities. Life in itself is

lifeless and is a result of the metaphysical and chemical influences and the summary of a life form is its animal instinct in the strictest biological sense.

Naturalists assert that particle is the fundamental paradigm on which nature is premised. Hence nature is everything. Nothing precedes and nothing succeeds nature. Hence a man seeking the truth should seek nature and that seeking can only be fulfilled by science. Naturalists assert that modern civilization and social progress has taken man away from nature. On embracing nature, it shall be possible for man to achieve natural and behavioural progress. Naturalists assert that the apex authority is that of nature and its spiritual dimension. They assert that nature is all encompassing and all pervasive. This school of thought has found vocal support from the following philosophers namely: Aristotle, Comte, Hobbes, Huxley, Herbert Spencer, Bernard Shaw and Rousseau. They are all united by the same school of thought, naturalism.

Back to Nature

Rousseau opines, "The creator of nature offers everything in its purest form. Yet on coming in contact with man, it gets contaminated." Naturalists assert that a life led in harmony with nature is the best possible way of leading life. Their thought echoes in their motto: "Follow nature."

Harnessing of Natural Resources and Land in India

Earth offers many natural resources at our disposal. Some of these resources that man uses cannot be renewed. For example, fossil fuels cannot be renewed. There is abundance of bio fuels in different layers of the earth's crust. These fuels include coal, petroleum, natural gas and methyl chlorate. These resources are used for the production of energy and chemical outputs. Even minerals are extracted from the crust of earth.

Earth and the atmosphere also offer many important items of daily use like fire wood, pharmaceuticals and oxygen.

Utilization of Earth Area by Purposes

Arable land	13.13%
Crops	4.71%
Livestock	26%
Forest Area	32%
Urban Area	1.5%
Others	30%

Climate Change

It has been assessed by scientists across the world that because of an increase in emission of carbon dioxide in the atmosphere, temperatures across the world shall increase by an average of 3degree Celsius. The effect of an increase in temperature by 3.5 degree Celsius shall be such that the Himalayas shall begin to melt leading to the submerging of many countries that are surrounded by oceans landing human lives and existence in the potential threat of annihilation. In certain parts of the world snow has started melting. Sea levels have begun to rise as a result. This has motivated some countries to engage in deep research on climate change. Climate is best assessed in terms of temperature. The earth is thus geographically segmented into three zones on the basis of temperature.

Tropical Zone: This is the zone that falls between the Tropic of Cancer and the Tropic of Capricorn. This zone experiences high temperatures throughout the year.

Temperate Zone: This zone extends in both the hemispheres between the range of 23'-30' and 66'-30'.
Frigid Zone: This zone extends in both the hemispheres in the range of 66'-30'. This zone experiences high temperatures throughout the year.

Atmospheric Pressure

Atmospheric pressure is measured in terms of per square unit of area. On the basis of atmospheric pressure the earth has been segmented into four zones. These are as follows:

Equatorial Low Pressure Belt: Across ten parts of the area of the earth on both the sides of the equator, there exists the equatorial low pressure belt. This zone has low atmospheric pressure. Owing to the low atmospheric pressure this zone is referred to as the Doldrums.

The Sub Tropical High Pressure Belt: Across thirty to thirty five parts of the area of the earth on both the sides of the equator, there exists the equatorial high pressure belt. This zone is referred to as

Sub Polar Low Pressure Belt: Across sixty to sixty five parts of the area of the earth on both the sides of the equator, there exists the sub polar low pressure belt.
Polar High Pressure Belt: These zones exist in the polar regions of the earth. Owing to extremely low temperatures there exists a polar high pressure belt in these zones.

Wind

Fast moving air is called wind. This is nature's way of balancing the atmospheric pressure. There are different types of wind found earth. These are as follows:
Prevailing Wind: The wind that exists due to air flowing in opposite direction due to atmospheric pressure is called prevailing wind. Some of the examples of prevailing wind are:
Periodic Wind: Winds that alter their direction as per climate and temperature are referred to as periodic winds. Sea breeze, land breeze and monsoon winds are examples of periodic winds.
Local Wind: Local winds are born out of the local differences in atmospheric pressure and temperature. Loo is a great example of local wind.

Humidity

The quantum of invisible water in the atmosphere is called humidity.
Absolute Humidity: The quantum of water in a unit of air is called absolute humidity.
Specific Humidity: The ratio of water to air per unit is called specific humidity.
Relative Humidity: The absolute humidity measured at a specific temperature is called relative humidity.

Clouds

The presence of atmospheric water in the air leads to formation of clouds. Formally the adiabatic reaction of air leading to the lowering of temperature leads to formation of clouds. Clouds are categorized into the following types:
High Clouds: These exist at an altitude of 6000-12000 meters from the earth.
Moderate Clouds: These exist at an altitude of 2000-6000 meters from the earth.
Low Clouds: These exist at an altitude of 2000 meters from the earth.

The Existence of Human Life and Its Condition

Population is defined as the sum total of all people living in area or all over the world. Of the total area of the earth, only 8% is worth human occupation. Oceans occupy three-fourths of the area of the earth. Of the total land area on earth, 14% consists of desert land and 27% consist of mountains. This apart is a large quantum of area of land that does not support human life. On the South Pole of the earth stands the Amundsen Scot poll station. There has been a tremendous increase in the population of the earth since 1650 and in the last three hundred years. This could not have been estimated to have happened at any time preceding this. The global population of the earth stood at 6,803,000,000. An approximate forecast asserts that the population of earth between years 2013 and 2050 shall be in the range of 7 trillion to 9.2 trillion.

Population growth is expected to occur primarily in the developed countries. Population density varies across countries in the world. A vast majority of the world population lives in Asia. As per a demographic forecast more than 60% of the world population shall be living in urban areas by the year 2020.

India's geographic composition has been classified as per earth eras. The Pre-Cambrian zone is spread across Vani Kudappa and Vinya mountain ranges, eastern and southern states. In this era the geographic structures of Western and Central India also took concrete shape. In the Palaeolithic era the western Himalayas in the states of Jammu & Kashmir and Himachal Pradesh came into being. The Mesozoic structures are seen primarily in the northern parts of India. It is widely believed that this part of India came into being as a result of volcanic eruptions. Carboniferous, Permian and Dibasic remains are observed in the western Himalayas. Parts of Rajasthan came into being during the Jurassic era. In the tertiary era there were developments in the North Eastern parts like Nagaland, Manipur, Arunachal Pradesh and the Himalayan foothills. Cretaceous era remains are observed in Central India, the Vindya foothills and Indo-Gangetic plains. The Gondwana plates are observed near the Narmada river, Vindya and Satpura ranges. The Eosin plate effects are visible in the Western Himalayas and Assam. In this era the Pleistocene era, parts of India came into being as a result of volcanic eruptions. The Himalayas were formed as a result of the continental drift of the Australian and Eurasian earth plates. The altitude of the Himalayas has been increasing by more than 1cm as a result of the collision of these two earth plates.

Indian Plate- India stands completely on the Indian plate. The Indian plate is one of the most ancient ones that came into being as a result of the breakaway from the Gondwanaland plate. Almost one crore years back during the Cretaceous era the Indian plate started moving north at a speed of 15 cm per year. In the Sonozoic era, the Indian plate

collided against the Asian plate almost 5 to 5.5 crore years back. In the year 2007 German geologists said that the reason behind the fast continental drift of the Indian plate is that it is light weight in comparison to others. In the recent years the speed of the continental drift of India's earth plate has been 5cm per year. This is the reason that the Indian plate has been named as the fastest earth plate.

Water Resources- India has 14500 km long coastline. There are 12 rivers in India that can be categorized among the large ones. The total area occupied by rivers is 2528,000sq.km. All primary rivers of India emanate from the following zones:
Himalayan or Karakoram Range
Vindya and Satpura Range in Central India
Western Ghats and Sahayadri hills in South India
Himalayan rivers derive water from the melting of snow glaciers. The speciality of these rivers is that these are filled with water throughout the year. The rest of the rivers depend on the monsoons and in the summer season when the water dries up these get converted into small rivers. The rivers that flow from the Himalayas into Pakistan include Indus, Beas, Ravi, Chenab and Jhelum. The combined area of the Ganga and Brahmaputra is one of the largest at 1,100,000 sq.km. The source of origin of the Ganges is in the state of Uttaranchal from the Gangotri glacier. It flows in the south eastern direction and falls over into the plains of Bengal. The source of origin of the Brahmaputra river is in Tibet and flows into India from Tibet. It flows into Bangladesh where it merges with the Ganga. In the Western Ghats all rivers originate from the Deccan plateau. These rivers include Krishna, Mahanadi, Godavari and Cauvery. All these rivers merge in the plains of Bengal. India derives 20% of its water consumption from these rivers.

The delta areas of India consist of the Rann of Kutch, the delta of Combay and Gunnar. Among the straits that exist, the Straits of Palk separate India from Sir Lanka, the Ten Degree Channel separates the Andaman from Niccobar islands and the Eight Degree Channel separates Lakshadweep from the main land body of India. Important tips of India include the Indira Point in Kanyakumari in Southern India, the Rama Bridge and the Point Kaali. The Arabian Sea lies to the West, the Bay of Bengal to the east of Bengal and the Indian Ocean lies to the south and south east of India. Small seas include the Bay of Lakshadweep and the Bay of Nicobar. There are four primary islands in India. These include the islands of Andaman & Nicobar, the islands of Lakshwadweep, the Straits of Mannar and the Raan of Kutch. Important lakes include the Chilka lake in Odisha (the biggest salt water lake in India), the Kolleru Lake in Andhra Pradesh, the Loktak Lake in Manipur, Dal Lake in Kashmir and the Sambhar Lake in Rajasthan.

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